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**MONEY THEORY AND CORPORATE  
FINANCE: FROM THE “DISTRIBUTION OF  
WEALTH” TO THE “DISTRIBUTION OF  
DREAMS”**

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By: Dr. Irit Haviv-Segal\*

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INTRODUCTION:

The globalization of capital markets manifests the triumph of the "corporation," as a form of organization, over the "State." International corporations both weaken states' ability to monitor human activities,<sup>1</sup> and require states to surrender portions of their sovereignty.<sup>2</sup> Towards the end of the millenium, this phenomenon raises the question, how did corporations acquire such enormous powers? What were the sources of their abilities to grow to such incredible sizes? And, how did they get to acquire most of the available wealth? Towards the beginning of the twenty-first century, the academia must also inquire into the forthcoming implications of this huge-scale phenomenon. These issues will undoubtedly become major subjects for research in the years to come.

In this essay, I chose to focus on an inquiry into the causes that have led to the current dominion of the public corporation. Many factors that have no relevance for legal theory contributed both to the decline of State powers and to the development of huge international corporations. For example, high technology enabled communication and easy traveling among states, and thereby encouraged business cooperation overseas. Frightening military technology forced states to cooperate through peace treaties; thereby, weakening the need for the State supplied security, etc.

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<sup>1</sup> Corporations can migrate from one legal regime to another; corporate investors can invest in one corporation through various capital markets, etc. See: E.Colombatto & J.R.Macey, "The Decline of the Nation State and its Effect on Constitutional and International Economic Law: Contribution: A Public Choice Model of International Economic Cooperation and The Decline of the Nation State," 18 *Cardozo L.Rev.* 925 (1996); M.B.Fox, "The Political Economy of Statutory Reach: U.S. Disclosure Rules in Globalizing Market for Securities," 97 *Mich.L.Rev.* 696 (1998); U.Geiger, "The Case for the Haminization of Disclosure Rules in the Global Market," 1997 *Colum.Bus.L.Rev.* 241 (1997); C.J.Mailander, "Recent Development: Tempering a Chill on Skittish Capital Markets: Illiquid Investments in the Wake of Glllobal Volatility," 13 *Am.U.Intl.L.Rev.* 379 (1997). But see also W.W.Bratton, "The Nexus of Contracts Corporation: A Critical Appraisal," 74 *Cornell L. Rev.* 407 (1989).

<sup>2</sup> This phenomenon is manifested by the development of the European market, and international trade-agreements.

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Nevertheless, at least part of this phenomenon can be attributed to legal theory; in particular the development of the theory of the firm and the development of the theory of money. Prevailing theories of the firm tend to undermine the uniqueness of legal persons. The theories either draw analogies between contracts and corporate interactions, or, compare the corporation with natural human beings. The contractual theory of the firm views the corporation as a "nexus of contracts" among its multiple investors.<sup>3</sup> The realist theory offers to recognize the existence of "groups" as real and separate entities, and thereby draws an analogy between the individual and the corporation.<sup>4</sup> Consequently, these theories overlook the special features of corporate interactions that have enabled the development and growth of giant business entities.

In this essay, I will offer a new theory of the corporation that focuses on the distinct features of corporate interactions, and not on the similarities between the corporation and human beings, or, between corporate interactions and contracts. I show that the unique characteristics of corporate interactions played a crucial role in enabling large groups of strangers to accumulate their economic resources within a joint pool, and cooperate in the joint venture.

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<sup>3</sup> See for example: F.H. Easterbrook & D.R. Fischel, "The Corporate Contract," 89 *Colum.L.Rev.* 1416 (1989); R.K.Winter, "State Law, Shareholder Protection and the Theory of the Corporation," 6 *J. of Legal Studies* 251 (1977); W.Werner, "Management, Stock Market and Corporate Reform, Berle & Means Reconsidered," 77 *Colum.L.Rev.* 388 (1977); E.F.Fama & M.C.Jensen, "Agency Problems and Residual Claims," 26 *J.L. & Econ.* 327 (1983); E.F.Fama, "Agency problems and The Theory of the Firm," 88 *J.Pol.Econ.* 288 (1980); J.R.Macey, "An Economic Analysis for Making Shareholders the Exclusive Beneficiaries of Corporate Fiduciary Duties," 21 *Stateson L.Rev.* 23 (1991).

<sup>4</sup> This understanding is associated with the philosopher, Gierke, . For the way it was adopted by American law, see: Henderson, *The Position of Foreign Corporations in American Constitutional Law* (Harvard U.Press, 1918), and the references therein; M.J.Horwitz, "Santa Clara Revisited: The Development of Corporate Theory," 88 *W.Va.L.Rev.* 173(1985), and the references therein.

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The focus on the special characteristics of corporate interactions will lead me to discuss the theory of money. The traditional theory of money is based on the premise that the State enjoys a monopoly over the production of money. Politically, this is a manifestation of the established social structure, in which the State constitutes the sovereign body. Economically, the State's monopoly over the production of money instructs both micro and macroeconomic theory: the traditional market-theory is premised upon the assumption that market-agents enter the exchange with some fixed wealth.<sup>5</sup> Macroeconomic theory is similarly premised upon the assumption that the State controls both the quantity and nominal value of local money, and can thereby implement and govern monetary policy.<sup>6</sup> Legally, Article 1, section 8(5) of the United States Constitution empowers the Congress "To coin Money, regulate the Value thereof, and of foreign Coin, and fix the Standard of Weights and Measures."

The State's monopoly over the production of money is further expressed in legal theory, both because it is the law that fixes how debts are to be repaid; and because repayment is enforced by the State's judicial system:<sup>7</sup>

"...it is a peculiar characteristic of money contracts that it is the State or Community not only which enforces delivery, but also which

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<sup>5</sup> In other words, the prevailing equilibrium is directly contingent upon some given initial allocation of wealth, denoted by the  $w=(w_1, \dots, w_n)$  vector; whereas, this vector is exogenously assigned to the agents. See: P. A. Samuelson & W. D. Nordhaus, *Economics*, (13th ed., 1989) at p. ; D.Kreps, *A Course in Microeconomic Theory*, (1991), at p.

<sup>6</sup> See: R. Dornbusch & S.Fischer, *Macroeconomics*, ( ed., 199 ), at p. 408. This theme appears in earlier texts, already at the beginning of the century, see: Knapp, *The State Theory of Money*, (1905, as translated by H.M.Lucas & J.Bonar, 1924); VonMises, *The Theory of Money and Credit*, (1924, translated by H.E.Batson, 1934) (describing and criticizing the State accustomed policy, at the beginning of the twentieth century, to alter the Gold-Standard in order to maintain high salaries, in spite of decreasing prices); J.M.Keynes, *A Treatise on Money* ( ), (calling for monetary policy, in order to stabilize the economy, and overcome the emerging gaps between investment and savings). These theories of money are discussed below.

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decides what it is that must be delivered as a lawful or customary discharge of a contract which has been concluded in terms of the Money-of-Account. The State, therefore, comes in first of all as the authority of law which enforces the payment of the thing which corresponds to the name or description in the contract. But it comes in doubly when, in addition, it claims the right to determine and declare what thing corresponds to the name..."

The idea of the State's monopoly over the production of money has been assimilated into the concept of money itself. In Professor Mann's words, money is currently perceived as "all chattels which, issued by the authority of the law and denominated with reference to a unit of account, are meant to serve as universal means of exchange in the State of issue."<sup>8</sup>

This concept of money goes back to Germany, at the beginning of the century, to Knapp's *State Theory of Money*. According to Knapp, "money is a creature of law."<sup>9</sup> With the departure from autometallism, the monetary unit of value is no longer determined by the units of weight of any precious metal, but rather, it is "... a legal concept defined historically by reference to a previous unit of value."<sup>10</sup> Accordingly, debts are repaid by the transfer of "engraved pieces which have by law a certain validity in units of value."<sup>11</sup> Money forms the State's chartal means of payment; it is a "State institution."<sup>12</sup>

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<sup>7</sup> Keynes, *ibid.*, at p. 4; See also, F.A.Mann, *The Legal Theory of Money*, (5<sup>th</sup> ed., Oxford U.Press, 1992), at p. 8.

<sup>8</sup> *Ibid.*, at p. .

<sup>9</sup> *Ibid.*, at p. 1.

<sup>10</sup> *Ibid.*, at p. .

<sup>11</sup> *Ibid.*, at p.

<sup>12</sup> The reader may wonder whether this cognition is nothing but a typical German understanding, by which the State is the source of authority of any social activity. See: VonMises, *supra* note , at p. ; Anderson, *The Value of Money*, (New-York, 1917), at p. 433-435. Nevertheless, as the discussion below will show, this understanding had much wider influence and recognition than this contention implies.

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However, the inquiry into the special features of corporate interactions will reveal that these special features further enable the corporate person to produce its own financial resources. In other words, my main claim is that in enabling incorporation, the State, in fact, surrendered its monopoly over the production of money, and allowed other institutions to produce monetary units as well. The development and growth of giant corporations is directly linked to this capability.

The capabilities of corporations to produce their own financial resources further transform the market itself. Because corporations compete for investors, their ability to produce valuable financial resources is contingent upon their expected returns. The more profitable the corporation is expected to be, the more valuable finance it can produce. Consequently, unlike the property-based market where the historic “distribution of wealth” prevails, the corporate market is governed by a “distribution of dreams,” i.e., a distributive scheme that is determined by the prevailing dreams about the future. The ability to engage in new projects is no longer determined by the historic wealth of the entrepreneur,<sup>13</sup> but rather by the future of his or her project. Capital markets further enable the trade of dreams in exchange for money, or, for other resources that are eligible for present consumption. The current distribution of wealth is again influenced by the dreams about the future.

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<sup>13</sup> In the property regime, finance for investment is available either from the entrepreneur’s personal wealth, or, from bank loans. In either case, the available finance is contingent upon the entrepreneur’s historical wealth. Indeed, it is also possible that multiple investors cooperate in a joint venture, but as the discussion below will show, property law implicitly limits the possibility of cooperation to small sets of investors, who are familiar with each other and share mutual trust.

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The ability of corporate persons to produce financial resources further provides them with meaningful purchasing-power, which in turn influences the market prices of real resources. Unlike human beings, corporations do not have any interest in mere consumption; they lack human preferences and utility maps. They consume resources only for production. Consequently, in a market where corporations hold a major fraction of the total eligible wealth, the demand-curve is no longer derived from the aggregate preferences of market agents,<sup>14</sup> but rather from the expected returns on the corporate business activities. Eventually, the current market prices of economic resources are also determined by “the distribution of dreams,” rather than by the aggregation of the current utility maps of market agents.

As the discussion will show, this shift has profound operative outcomes, because it encourages cooperation, rather than competition, among local markets. In an effort to widen the future market for the corporation’s products, the latter has an interest in increasing the wealth of foreign markets, in order to secure its members’ purchasing-power. This economic interest subjects the State to pressures to surrender portions of its sovereignty. The State and the corporation become competing forms of institutions.

PART 1 inquires into the unique attributes of corporate interactions. I will identify three characteristics of corporate interactions, that are divergent from property-based ones, as well as three characteristics that render corporate interactions different from contractual transactions. I will further show that these six features are logically and normatively connected to each other.

In particular, as long as joint investors manage their affairs without forming a corporation, they maintain their initial property rights in the invested

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<sup>14</sup> See: Kreps, *supra* note , at p.

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resources. In the context of joint ownership or partnership, each joint-investor reserves the right to file for partition, leading, ultimately, to the liquidation of the joint-venture (hereinafter, *the rule of liquidability*).<sup>15</sup> The rule of liquidability expresses the conviction of the property regime to individual governance over the economic resources. Ownership in common subjects the resources to collective choice, thereby leading to the “tragedy of commons,” or, to the “tragedy of anticommons.”<sup>16</sup> Accordingly, the traditional property law instructs that ownership in common should remain a mere transient state, that must be terminated once goodwill and voluntary cooperation end.

However, my first argument is that it is the *rule of liquidability* that triggers the initiative to incorporate, because the coerced liquidation may involve high costs for all other joint-investors. Accordingly, they choose to incorporate in order to avoid coerced liquidations, which may be triggered by one of the co-investors. In the process of incorporation, the joint-investors surrender their property rights in the invested resources on behalf of the corporate person. Each investor surrenders his right to file for partition, in consideration for the others’ willingness to avoid coerced liquidations as well. Once incorporated, the legal person will be liquidated only upon a majority vote of the

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<sup>15</sup> See: J.Duckeminier & J.E. Krier, *Property*, (2nd ed., 1988) at 304. Similar rules apply to partnerships. See, for examples: 6 Del.Code section 1537 (1998); Cal.Corp.Code section 15681© (1999); New York C.L.S. Partn. Section 62(1)(b) (1999).

<sup>16</sup> Garrett Hardin showed how when resources are commonly owned, the free access leads to overuse of the resources. See: G.Hardin, “The Tragedy of Commons,” 162 *Science* 1243 (1968). The “tragedy of commons” became a widespread paradigm for analyzing social and legal issues. See, for examples: E.Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (1990); J.Wiener, “Global Environmental Regulation: Instrumental Choice in Legal Context,” 108 *Yale L.J.* 677 (1999); J.Farzier, “Protecting Ecological Integrity within The Balancing Function of Property Law,” 28 *Envtl. L.* 53 (1998). Later on, Michael Heller showed how when multiple agents have the right to exclude others from the resources, but none of them maintains a sufficient bundle of rights to use, the resources are underused. See: M. Heller, “The Tragedy of the Anticommons: property in the Transition from Marx to Markets,” 111 *Harv.L.Rev.* 621 (1998). The latter problem is the more recurrent one in cases of ownership in common. See, the discussion below, text to notes

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shareholders (hereinafter, *the rule of illiquidity*). The analysis further shows that the other unique features of corporate interactions directly stem from *the rule of illiquidity*.

The focus on *the rule of illiquidity* will lead me to discuss the theory of money. PART 2 shows that in enabling the formation of illiquidable pools of resources, the State has surrendered its monopoly over the production of money. The combination of the unique features of corporate interactions, i.e., the rule of illiquidity, limited liability and share transferability make corporate securities equivalent to paper-money that is issued by the State.<sup>17</sup> In other words, my analysis proposes that the corporation and the state are both forms of illiquidable pools of resources. Both corporate securities and state-issued money reflect claims against the respective illiquidable pool.

Finally, in PART 3, I will analyze and discuss some of the implications of my offered framework. Mainly, I will show how the corporation’s ability to produce its own finance leads to a social regime where the “distribution of dreams,” rather than the “distribution of historical wealth,” prevails. I will further inquire into the impact of corporateness on the market prices of real resources.

**PART 1: THE UNIQUE CHARACTERISTICS OF CORPORATE  
INTERACTIONS**

**a. Formal Characteristics of the Property-Based Market:**

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<sup>17</sup> In this respect, my analysis proceeds in an opposite direction to the common theories: the traditional theories fixed their starting point in the analysis of political entities, and from there, proceeded to draw analogies between the State and the corporation. The analysis of corporate interactions relied on ideas and metaphors from the political context. My analysis begins with corporate entities, and from there, proceeds to draw analogies between the corporation and the State. Because, as will be shown, the political interactions satisfy the six distinct features of corporate interactions, the State issued money is equivalent to corporate shares.

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## a.1. General:

The traditional concept of *market* is defined by *market agents* capable of owning *economic resources* and qualified to conduct decentralized *transactions* wherein property rights are transferred from one agent to another. In other words, the basic economic concept of markets is a fourfold composite of *market agents*, *economic resources*, the *property relation*, and *contractual transactions*.

Formally,<sup>18</sup> the decentralized market is defined by:

a. A finite set of *human agents*,  $N=\{1,2,\dots,n\}$ ;

The Model assumes that agents are characterized by three major abilities: The ability to consume economic resources and enjoy such consumption,<sup>19</sup> the ability to transfer economic resources from one agent to another, and the ability to exercise control over the economic resources. These abilities are discussed below.

b. A finite set of *economic resources* that consists of a vector, on a Cartesian product, of a finite number of product sub-sets,  $P \in P_1 \times P_2 \times P_3 \dots P_m \subseteq \mathbf{R}^m$ .

Resources are scarce and infinitely dividable, that is, at each point in time there is a feasible finite total quantity of each resource. Accordingly, the set of resources can be presented by a vector, on an Euclidean space of  $m$  dimensions.

c. A *property relation* between every agent,  $i \in N$ , and a fraction of every resource,  $p_{ki} \in [0, p_k]$  so that  $iR[x(p_k)] : x \in [0,1]$  means that  $i$  owns some  $x$  fraction of  $p_k$ . The property relation induces a partition<sup>20</sup> of  $P$  into  $n$  sub-sets: for every  $i \in N$  there is a vector  $(p_{i1}, \dots, p_{mi})$  pointing to all the resources found in a property relation with it, such that:

$$p_k = \sum_{i=1}^n p_{ki}$$

for every  $k=1, \dots, m$ , and  $i=1, \dots, n$ .

Hence, given the qualities of the property relation, if  $iR p_{ki}$ , then  $i$  is exclusively entitled to hold, enjoy, govern, or transfer  $p_{ki}$  upon his or her individual choice. As

<sup>18</sup> See D. Kreps, *supra* note , Chapter 6; Samuelson & Nordhaus, *supra* note , at p. 24-35. The formal model is based on L.Walras, *Elements of Pure Economics* (London, as translated by W.Jaffe, 1954), at lesson 2.

<sup>19</sup> This ability is formalized by the existence of personal utility-maps.

<sup>20</sup> I am referring here to the mathematical rather than the legal concept of partition, which deals with the liquidation of the joint ownership.

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$i \in \mathbb{R}^n$ , for every  $j \in \mathbb{N}; j \neq i$ ,  $i$ 's extractable utility values, as well as the control over his or her economic resources, are confined to these resources.

The set of all possible partitions is denoted  $T_{n \times m}(P)$ , denoting the set of all matrices  $M_{n \times m} \subseteq \mathbb{R}^{n \times m}$  satisfying the aggregation condition above.

d. Finally, there is *contract function*  $f: M_{n \times m} \rightarrow M_{n \times m}$ , such that every consensual agreement between  $i, j \in \mathbb{N}; i \neq j$ , by which  $i$  consents to transfer  $(x(p_{ki}))$ ,  $x \in [0,1]$ , to  $j$ , reassigns a partition on  $P$ :

$$f(p_{zl}) = \begin{cases} p_{zl} & \text{for } l \neq i, j \text{ or } z \neq k \\ (1-x)p_{zl} & \text{for } l=i, z=k \\ p_{zl} + x(p_{zi}) & \text{for } l=j, z=k. \end{cases}$$

These four elements are the basic constituents of any property-based market model. Some variations include other features and extend the basic model, while others provide a methodology that allows us to translate additional factors into these four elements.<sup>21</sup> In any variation, two starting points are imperative: first, the property-based partition of the economic-resources,<sup>22</sup> and second, the status of the contract function as the sole transforming factor of the existing partition.

## a.2. The Property-Based Partition of Economic Resources:

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<sup>21</sup> Traditional market theory extends the basic, pure exchange, model to production markets. See Kreps, *supra* note 1, at 233-298. Traditional finance theory provides a mathematical method allowing for the inclusion of future values into the traditional market model by translating them into net present values. See: Ross & Westerfield, *Corporate Finance*, (1988), at 71. Similarly, traditional agency theory provides a mathematical methodology to analyze agency interactions as well as other forms of exchange. See Jensen & Meckling, "Theory of The Firm: Managerial Behavior, Agency Costs and Ownership Structure," 3 *J.F.E.* 305 (1976).

<sup>22</sup> See J. Waldron, *The Right to Private Property*, (Oxford University Press, 1988), at 38, who presents the partition predisposition as the distinctive feature of private property. Surprisingly, however, Waldron compares private property only with collectivism and common property but not with an alternative system that subjects economic resources to collective choice ruling. Consequently, he does not distinguish between private property and incorporation.

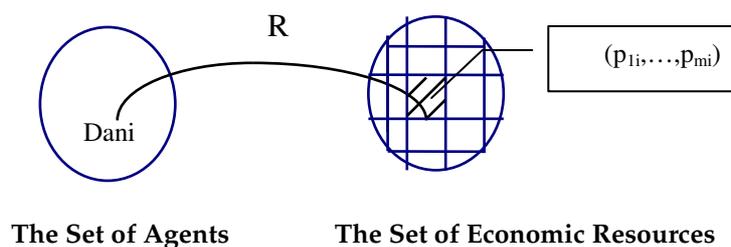
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In the property-based partition, the set of economic resources is allocated to the market-agents, such that each partial fraction of each available quantity of resource is assigned to some market-agent (See, **Figure No. 1**).<sup>23</sup>

**FIGURE NO. 1: THE PROPERTY RELATION**



The property-based partition of resources yields the main characteristics of the property regime:

1. *Property rights consist of the owner's **freedom** to manage his assigned fractions of resources:*

Property rights consist of the liberty of the owner to use, control or transfer his resources, according to his autonomous decisions.<sup>24</sup>

If  $iRp_{ki}$ , and given by Nature, at every point in time, there exists some set of actions,  $(a_{1i}, \dots, a_{zi})$ , that might bear some impact on  $p_{ki}$ , (denoted  $A_i$ ), then,  $i$  enjoys both the freedom to choose any action of  $A_i$ , and the power to act accordingly.

Indeed, the **rationality assumption** is based on this freedom, and assumes that the agent will choose the action that maximizes her utility value over  $A_i$ :

Every action  $a_{ii} \in A_i$ , is expected to yield some utility value,  $u_i(a_{ii})$ . Accordingly, the agent is expected to choose some action,  $a_{ii}$ , such that:

$$u_i(a_{ii}) = \max \{u_i(a_{ii}): a_{ii} \in A_i\}.$$

2. *The **exclusivity** of the property relation:*

<sup>23</sup> The Property-based concept of partition coincides with the mathematical one.

<sup>24</sup> See: Waldron, *supra* note , at p. , and the references therein; R.Epstein, *Takings*, at p. ; E.Sherwin, "Two and Three Dimensional Property Rights," 29 *Ariz. St. L.J.* 1075 (1997); ; and in Israeli law, see, section 2 of the Real Estate Law, 1969;

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The property-based partition entails the exclusivity of the property relation. If a fraction of the total feasible quantity of the resource is owned by some agent,  $i$ , then, it cannot be simultaneously owned by any other agent,  $j$ .<sup>25</sup>

If  $iR_{p_{ki}}$ , then,  $j \notin R_{p_{ki}}$ , for every  $j \in N, j \neq i$ .

**3. Combination of ownership and control:**

Characteristics 1 and 2 of the property relation imply that the same partition that applies as to the allocation of rights for consumption of economic resources also applies to the allocation of rights to transfer and control the resources. The distribution of historical wealth converges with the allocation of governance powers over the economic resources.

Analytically, the set of available actions,  $A_i$ , consists of three sub-sets: the set of actions that involve consumption, and thereby, provide the agent with immediate utility-values, denoted  $A_i$ ; the set of actions that involve a transfer of the resource to some other agent, denoted  $A_i$ ; and the set of actions that involve the exercise of control over the resource, denoted  $A_i$ . The  $A_i \cap A_i \cap A_i$  may not be empty, but  $A_i = A_i \cup A_i \cup A_i$ .

The actions are characterized by their outcomes: actions that yield immediate utility-values are actions of  $A_i$ . Actions that result in a transformation of the initial partition of resources are actions of  $A_i$ ; and actions that result in a transformation of the set of resources itself are actions of  $A_i$ .

By characters (1) and (2) above,  $i$  is entitled the exclusive freedom to choose among  $A_i$ , if and only if he or she is further entitled the exclusive freedom to choose among  $A_i$ . Similarly,  $i$  is entitled the exclusive freedom to choose among  $A_i$ , if and only if he or she is further entitled the exclusive freedom to choose among  $A_i$ . Finally,  $i$  is entitled the exclusive freedom to choose among  $A_i$ , if and only if he or she is further entitled the exclusive freedom to choose among  $A_i$ .

**4. The Property-Relation forms a regime of personal-liability:**

The property-based partition further designs the distributive scheme for the purpose of the *collection of debts*: all of the individual's personal wealth is subject to his obligations and liabilities. Yet, the resources that are subordinated to such liabilities are confined to the debtor's resources. His

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<sup>25</sup> The exclusivity of the property relation appears in Blackstone's classical definition of property. See: W. Blackstone, *Commentaries on the Laws of England* 2 (facsimile

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creditors are not entitled to seize the resources of any other person for the collection of his debts. If the debtor's resources are insufficient to cover all of his debts, some creditors will not be repaid.

In other words, the property-based partition results in a regime of personal-liability. The allocation of economic resources to separate subsets, that are held by their owners, further allocates the total set of resources into separate "pockets" of wealth, for the purposes of liability and collection of debts. **Figure No. 1** does not merely express the distribution of wealth, but further delineates the legal regime regarding the *collection of debts*.

By characters (1)-(3) above,  $i$  is entitled the exclusive freedom to choose any  $a \in A_i$ , with regard to each of her resources,  $p_{li}$ ,  $l=1, \dots, m$ .

In particular, should  $i$  breach his or her obligation to transfer any fraction of  $p_{ki}$  -- the whole sub-set of resources in his or her ownership,  $(p_{1i}, \dots, p_{ki})$ , can serve to cover his resulting liabilities.

However,  $i$ 's creditors cannot seize any other resource for this purpose, because, by character (2) above, if  $j \in R_{p_{kj}}$ , then,  $i \notin R_{p_{kj}}$ , for every  $j \in N$ ,  $j \neq i$ . Accordingly,  $i$  cannot induce the reallocation of any  $p_{kj}$ .

*a.3. The Uniqueness of the Contract Function:*

The freedoms of the property owner lead to the principle of freedom of contract: contracts are the sole mechanism for inducing a re-distributive scheme on the set of economic-resources. First, because the owner enjoys the exclusive entitlement to transfer his resources to some other agent, his consent is both necessary and sufficient to induce the transaction. As any coercive relocation of resources interferes with the owner's freedoms, the contract function forms the unique mechanism of redistribution. Second, due to the conviction to the property-based partition, the consensual transaction is

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ed. 1979) (1765-69), as presented and discussed by Carol-Rose, "Canons of Property Talk, or, Blackstone's Anxiety," 108 *Yale L.J.* 601 (1998), and the references therein.

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confined to the re-allocation of some fraction of the resources. Contracts do not transform the structure of partition itself. Both before and after the execution of the contract, the structure of partition remains unchanged, such that the contract execution merely alters the identity of property owners.

5. *Property rights consists of the owner's freedom to transfer his or her resources:*

The principle of freedom of contract directly derives from characteristic (1) of the property-based partition. It is the owner, rather than any other person or centralized mechanism of control, who is entitled to transfer his resource to some other agent.

This character is the outcome of character (1) above: if  $i$  enjoys the freedom to choose any action of  $A_i$ , he enjoys the freedom to choose any action of  $A_i$ .

6. *The owner's freedom to transfer his or her resources is exclusive:*

Because the owner's property rights exclude the other agents from having any entitlement with regard to his resources, the owner's freedom to transfer his resources is exclusive as well.

By character (2) above, if  $iR_j p_{ki}$ , then,  $j \not R_i p_{ki}$ , for every  $j \in N$ ,  $j \neq i$ ; accordingly,  $j$  cannot induce a reallocation of  $p_{ki}$ . Rather, only  $i$  enjoys the entitlement to choose among  $a \in A_i$ .

Accordingly, only consensual transactions induce a redistribution of the economic-resources.

7. *Contracts do not transform the structure of partition:*

The impact of the execution of contracts is confined to the relocation of resources: if an individual does not engage in a contract, he will continue to hold his resources. If he or she does engage in a contract, a fraction of his resources will be transferred to some other agent. However, notwithstanding

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the identity of the property-owners, the structure of partition will remain unchanged.

By the above definition, the contract function is defined as  $f: M_{n \times m} \rightarrow M_{n \times m}$ ; accordingly, both prior to the execution of contracts, and afterwards, the resources remain allocated according to the characters of the property-relation.

8. *Contractual Obligations are not transferable:*

Due to the uniqueness of the contract function, each transaction is confined to the reallocation of resources belonging to the consenting parties,<sup>26</sup> with each consenting party bearing unlimited liability for meeting all his or her contractual obligations.<sup>27</sup>

Thus, contracts yield personal liabilities, and *in personam* rights: if the promisee *ex ante* expects that the contract execution will be confined to the promisor's total wealth, he will naturally attune the contractual terms to this expected wealth. As a result, any promisor's conveyance of contractual obligations may violate the promisee's reliance interest. The law protects the expectations of the contractual parties to be associated with their original contract mates, and strictly regulates the transfer of contractual rights and obligations. Promisors cannot be interchanged without their promisees' consent,<sup>28</sup> and promisees cannot force their contractual rights on anyone but the promisor without obtaining consent from both the original promisors and their successors.

Formally, the contract function requires defined values of  $(i,j,p_{ki},X)$ . More specifically, contracting-parties,  $i,j \in N$ , are elementary constituents of the contract. Because contractual consent is directed at identifiable values of  $i,j,p_{ki},X$ , a contract between  $i$  and  $j$  does not

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<sup>26</sup> By contract-function,  $f(p_{zi})=p_{zi}$ , for every  $l \in N: l \neq i,j$ .

<sup>27</sup> See, supra paragraph a.2.4.

<sup>28</sup> Promisees, however, are free to transfer their rights, and can reassign a contractual promise to some other agent, simply by notifying the promisor; no promisor's consent is necessary.

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equal any contractual obligation between  $l, o \in N$ :  $l, o \neq i, j$ ; and  $f(i, j, p_{ki}, x) \neq f(l, o, p_{kl}, x)$ , even if  $p_{ki} = p_{kl}$ .

The normative reason for this restriction is that  $(p_{1i}, \dots, p_{mi})$  is not necessarily equal to  $(p_{1l}, \dots, p_{ml})$ ; whereas, the promisee,  $j$ , is entitled to rely on  $(p_{1i}, \dots, p_{mi})$  as sources of value for recovering  $i$ 's contractual obligations.

**b. The Historical “Distribution of Wealth” Prevails:**

The property regime, as described above, induces a history-based governance over economic resources: if an individual does not engage in a contract, he or she will continue to hold his historical fraction of the resources.

By character (6), provided the total set of economic-resources remains constant, the partition of resources at any time-point,  $t_z$ , is different from the partition of resources at an earlier time-point,  $t_n$ ,  $n < z$ , only if a contractual transaction and its execution took place, between any  $i, j \in N$ , in the interim.

Otherwise, the historic partition prevails into the future.

This character is the direct outcome of the uniqueness of contract-function, and its structure: assuming that the total set of resources remains unchanged, according to the contract function above, for every  $l \in N$ ,  $l \neq i, j$ :

$$f(p_{zi}) = p_{zi};$$

⇒ for any agent that does not engage in a contractual transaction:

$$f(p_{1l}, \dots, p_{ml}) = (p_{1l}, \dots, p_{ml});$$

⇒ if no contractual transaction took place between  $t_n$  and  $t_z$ , then, for every  $i \in N$ , the above equation applies, and  $T_{nxm}(P)$  at  $t_n$  equals  $T_{nxm}(P)$  at  $t_z$ .

Furthermore, each individual's control over economic resources is determined by his historical wealth: if he strives to engage in productive activities, that would transform the set of resources itself,<sup>29</sup> he can either invest his own resources, or lever on his wealth and take loans in order to get the necessary finance for the project. In either case, the resources available to the individual are contingent upon his historical wealth: provided the lender's *ex ante* expectation that the sources for repayment are confined to the borrower's

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personal wealth, the former will accommodate the size and conditions of the loan to the latter's wealth.

**c. The “Tragedy of Commons” or The “Tragedy of Anticommons” and The Owner's Right to Partition:**

The property-based partition expresses the commitment to a regime of *individual-governance* over economic resources. Classic and neo-classic economic theory shows how individual autonomy is congruent with aggregate efficiency. The decentralized market is expected to yield an efficient equilibrium, whereby the aggregate efficiency is maximized. The regime of personal liability encourages each decision-maker to exercise efficient control over his resources.

Public Choice Theory and Game Theory further establish the supremacy of individual-governance over economic resources, by pointing at the problematic nature of collective choice. According to Game Theory, ownership in common is expected to result in the “tragedy of commons,” or the “tragedy of anticommons.”<sup>30</sup> Garrett Hardin shows how when resources are commonly owned, and multiple individuals enjoy free access to the resources, they are overused. This phenomenon is known as the “tragedy of commons.” Michael Heller has recently shown that when multiple individuals enjoy the right to exclude other individuals, but lack meaningful bundles of rights to use the resources, the resources are underused. This is the “tragedy of anticommons.”

Ownership in common implies that instead of a property-relation between one agent,  $i$ , and some fraction of the economic resources,  $p_{ki}$ , we have a property relation between a

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<sup>29</sup> The impact or lack of impact on the aggregate set of resources is the source of distinction between actions of control and actions of mere transfer of resources from one agent to another. See: *supra* at paragraph a.1.

<sup>30</sup> See: *supra* note , and the references therein.

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subset of agents,  $I, I=(1, \dots, i)$ , and some fraction of the economic resources, such that  $(1, \dots, i)R_{p_{kl}}$ ; and such that each agent  $i \in I$ , holds some fraction,  $F_i$ , of  $p_{kl}$ , and:

$$\sum_{i=1}^I F_i = 1$$

Ownership in common cannot be reconciled with the property-relation, because it violates characters (1) and (2) above:

Ownership in common violates character (1) of the property relation, because it is the set of agents,  $I$ , (rather than each  $i$  in  $I$ ) who enjoys the freedom to choose any action of  $A_I$ . Accordingly, while the set- $I$  may collectively prefer to follow some action,  $a_{II}$  of  $A_I$ , the agent  $i$  in  $I$  may prefer to follow some other action,  $a_{kl}$  of  $A_I$ . The collective choice prevails, and thereby, violates character (1) regarding  $i$ .

Ownership in common further violates the exclusivity condition (2) above, because some collective-decisions of  $I$  will spill-over and affect the dissenter's resources.

Individual-autonomy may no longer be congruent with aggregate efficiency. As Game Theory and Collective Choice Theory show, the prevailing equilibrium may not result in the most efficient outcome.

This outcome is known as the “tragedy of commons.”

Following the “tragedy of commons” paradigm, property law is strictly committed to the property-based partition. Although joint ownership is allowed, and although jointly owned resources are generally governed by majority rule, the divergence from the generic property relation is voluntary and cannot infringe on any of the joint owners' individual freedoms. Each joint owner is entitled to submit the joint property to liquidation at any time.<sup>31</sup>

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<sup>31</sup> See: J.Duckeminier & J.E. Krier, **Property**, (2nd ed., 1988) at 304. For example, 25 Del. C. § 721 (1998), subsection instructs:

“(a) When any 2 or more persons hold lands and tenements within this State as joint tenants... any 1 or more of them, being of lawful age... may present a petition to the Court of Chancery of the county... The petition shall state the facts, describe the lands and tenements so held, and pray partition thereof among the several parties entitled to such lands ....

(b) Thereupon, the Court of Chancery, or any Judge thereof in vacation, shall order a summons in partition to be issued, directed to the persons interested, who may not have joined in such petitions, returnable on some day, which shall not be less than 20 days after the date of such order requiring such persons to appear before the Court of Chancery, and show cause why partition of the premises should not be made, according to the prayer of the petition.”

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Following a partition action, the court will either order a partition in kind, and divide the jointly owned resource among the owners in common, or, order a partition sale.<sup>32</sup>

As far as property law is concerned, majority rule cannot be compulsory but must rely on the goodwill and voluntary cooperation of all joint owners.<sup>33</sup> In the absence of good will, and if disagreements emerge, resources are submitted to liquidation and the conventional *property relation* is restored.

Accordingly, ownership-in common is continually voluntary: at each time-point, every common owner can file a motion for partition. Then, the legal system then induces the function:

$$F_{\text{partition}}(p_{ki}) = \max [(\Sigma v_i(\text{partition})), (\Sigma v_i(\text{partial-partition})), (\Sigma v_i(\text{sale}))];$$

whereby:  $\Sigma v_i(\text{partition}) = \Sigma v_i(xp_{ki})$ , such that  $x$  denotes the fraction of  $p_k$  added to  $p_{ki}$ , upon the partition of the commonly owned resource;

$\Sigma v_i(\text{partial-partition}) = v_i(P_i(F_i(p_{ki}))) + \Sigma v_j(p_{ki} - P_i)$ , such that  $P_i$  denotes the price paid to the joint owner who filed for partition;

$\Sigma v_i(\text{sale}) = \Sigma v_i(P_i)$ , such that  $(P_i)$  denotes the price paid to  $I$  for the commonly owned resource, in the partition proceeding.

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For other such examples, see: Cal Code Civ Proc § 872.210 (1999); NY CLS RPAPL § 901 (1999); 735 ILCS 5/17-101 (1999); Mass. Ann. Laws ch. 241, § 1 (1999); ORC Ann. 5307.01 (Anderson 1999) 5307.01 to 5307.25; New Hampshire Revised Statutes Annotated, TITLE LVI.: Probate Courts and Decedents' Estates, Chapter 547-C: 1 (1999); and in Israeli law, see: section 37 of The Real Property Act; section 41(a)(3) of The Partnership Ordinance. Furthermore, agreements to bar liquidation applications were limited to a three year period. See section 37(b) of The Real Property Act.

<sup>32</sup> See, Duckenminier & Krier, *ibid.*, at p. 310-311.

<sup>33</sup> See, for example, E. A. Lewis, "Struggling with Quicksand: The Ins and Outs of Cotenant Possession Value Liability and a Call for Default Rule Reform," 1994 Wis. L. Rev. 331 (pointing to the harm caused to other co-owners, as a result of partition, and calling for a reform of the law); V. A. Richelle, "Recent Development: Campbell v. Pasternack Holding Co.: The Right to Partition by Licitation under Revised Civil Code Article 543, 68 Tul. L. Rev. 1642 (1994) (limitations on the right to partition deserve strict construction) 68 Tul. L. Rev. 1642 S. C. Symeonides & N. D. Martin, "The New Law of Co-ownership: A Kommentar," 68 Tul. L. Rev. 69 (1993) (pointing to the focus of the new law of co-ownership on partition, rather than on the relationships among the co-owners during the ownership in common.); and in Israeli law, see: C.A. 319/74, *Rubinstein v. Fein*, P.D. 30 (1) 454, 457.

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Since goodwill and voluntary cooperation are not expected to endure forever, all jointly owned resources are expected to undergo liquidation proceedings sooner or later. In other words, traditional property law perceives joint ownership as merely a transient state, thereby encouraging the restoration of conventional partition.<sup>34</sup>

Note that contrary to the typical qualities of the *property relation*,<sup>35</sup> the right of the joint owner to apply for partition might spill over and affect the property rights of other joint owners, as it might coerce them to transfer their shares without consent. Nevertheless, the law of property favors the individual interest in liquidating the joint venture over the interests of other joint owners in maintaining the status quo. Joint ownership should only endure as long as it is compatible with the choices of all its participants as, otherwise, the law favors the restoration of the archetypal partition.

The legal function of partition may violate individual-autonomy, because it may induce a sale of the resource, even though, some of the owners in common oppose this option. The legal function of partition may violate aggregate efficiency, at least in the short-run, because it may be that:

$$\sum_{i=1}^I v_i(F_i(pkI)) > \sum_{i=1}^I v_i(F_{\text{partition}}(pkI))$$

This inequality will pertain, if:

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<sup>34</sup> See:

This theme also appears in H. Demsetz, "Toward A Theory of Property Rights" 57 *Am.Econ Rev.* 347 (1967) (arguing that common ownership will only last as long as technology is not sufficiently developed to make the costs of maintaining a private property regime worthwhile.); and in R. C. Ellickson, "Property in Land," 102 *Yale L.J.* 1315 (1993) (showing how divergent regimes of common ownership of land last only for limited periods of time, at which the relevant communities face unique circumstances and needs).

<sup>35</sup> In the typical *property relation*, the owner can only induce a transaction of his own resources, but cannot effect a transaction on the other's resources.

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$$\sum_{\substack{j=1 \\ j \neq i}}^I v_j(F_j(p_k I)) - \sum_{\substack{j=1 \\ j \neq i}}^I v_j(F_{\text{partition}}(p_k I)) > v_i(F_{\text{partition}}(p_k I)) - v_i F_i(p_k I)$$

This legal order reflects the expectation that, in the long run, *economic resources* will be managed better and yield higher utility values under individual rather than collective governance.<sup>36</sup> Therefore, even if liquidations that are partially coercive entail some loss of efficiency, this loss is outweighed by the efficiency surplus generated by the reassignment of resources to individual ownership.

**d. The Unique Attributes of Corporate Interactions:**

d.1. General:

Corporations institute a different regime: in the process of incorporation, the individual investors surrender their initial property rights in the invested resources on behalf of the corporation. Since the corporation is a separate legal person, it develops a direct *property relation* with its assigned resources.<sup>37</sup> The corporate investors merely hold obligatory claims against the corporation's personality, but by no means do they enjoy any direct claim against the latter's resources.<sup>38</sup>

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<sup>36</sup> See Posner, *supra* note , at 63; Hardin, *supra* note ; J.Weissman, *Property Law*, (Jerusalem, 1992; Hebrew), at ; and in the Israeli case law, see: C.A. 623/71, *Gan-Bp'az v. Englander*, P.D. 27 (1) 334, 336; C.A. 753/82, *Plonit v. Ploni*, P.D. 37 (4) 626, 628.

<sup>37</sup> See:

and in Israeli law, see: section 22 of The Companies Ordinance; section 4 of the New Corporations Act.

<sup>38</sup> Such claims can emerge in voluntary transactions among the corporation's third parties or its investors. Without a positive consensual transaction, however, the corporation remains in a property relation to its assets and its implied freedoms are not lessened by the investors' rights.

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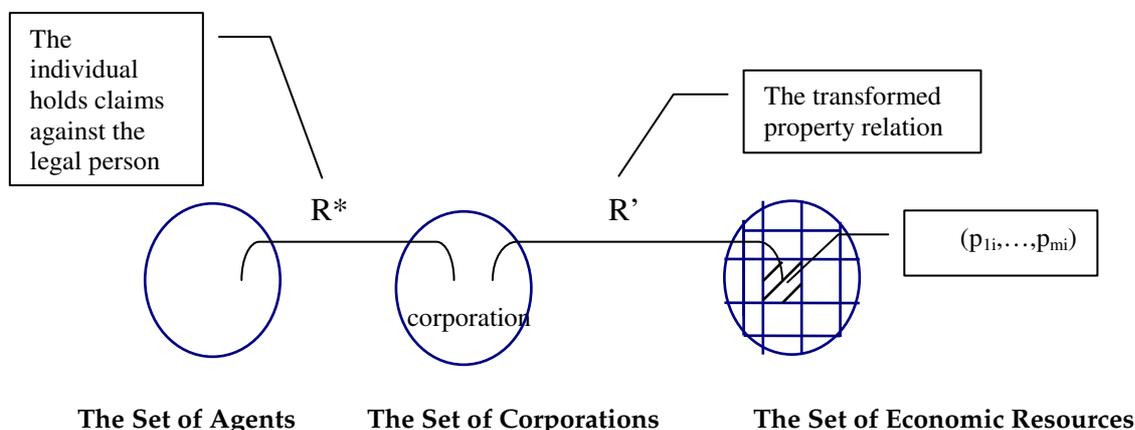
Furthermore, once a legal person holds the economic resources, the property relation is transformed: unlike the human being, who holds the resources for his own benefit and consumption, the legal person holds and manages the resources on behalf of its investors. Accordingly, the corporation issues obligatory claims to its investors against its pool of resources (see: **Figure No. 2**).

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**FIGURE NO. 2: THE COMPOSED RELATION BETWEEN CORPORATE  
INVESTORS AND ECONOMIC RESOURCES**



Upon incorporation, the individuals transfer resources to the corporate person. After incorporation, the corporate person holds the property rights in the invested resources. However, because the corporate person does not have all the qualities of human beings, nor does it hold the resources for its own benefit – its relation to the economic resources is a transformed form of property, denoted,  $R'$ . The individual investors hold quasi-property rights in the corporate person, denoted  $R^*$ . The uniqueness of corporate interactions is expressed through the uniqueness of the composed relation,  $(R' \circ R^*)$ , as compared with the typical  $R$ .

The following paragraphs show that the composed relation  $((R' \circ R^*)$  between the individual investors and the economic resources), which results from the process of incorporation, is fundamentally different from initial property rights. Note that the transition from private property to corporate interactions is voluntary. It is the market agents themselves who choose to invest their resources within the corporate form. Accordingly, the next question is, why and when should market agents choose to surrender their initial property rights on behalf of the corporate person?

*1. The Rule of Illiquidability:*

My theory of the firm suggests that the sources of individual incentives to incorporate are rooted in the attitude of property law towards ownership in common, and in particular, the *rule of liquidability*. In contradiction with the

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"tragedy of commons" paradigm, individuals choose to incorporate in order to immunize the joint venture against attempts at coerced liquidation triggered by some individual co-investor.

In a developed society, high technology yields economies of scale: resources must be accumulated within large pools, in order to engage in efficient production.<sup>39</sup> Yet, traditional property law is not attuned to this economic need. It remains committed to the right of each individual co-owner to file for partition, even though, the *rule of liquidability* threatens to thwart the going concern value. Thus, joint-investors must *ex ante* find ways to deviate from the property law regime, in order to shield the joint-investment against partition actions. The corporate form provides such a way. As long as it is solvent, the corporation has perpetual life. It can be liquidated only through majority vote (hereinafter, *the rule of illiquidability*).<sup>40</sup> In other words, I suggest to perceive legal persons as illiquidable pools of resources, governed by the rule of majority.

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<sup>39</sup> Note, however, that the mere existence of economies of scale cannot explain the phenomenon of corporateness. Economies of scale explain why resources must be accumulated within large pools, in order to maximize returns on investment. But, they cannot explain why is a separate corporate personality required for this purpose. Theoretically, agents could form ordinary contracts that would have expressed their reciprocal obligations to invest resources within a joint pool. The question, thus remain, why do they need to form a legal person that would hold property rights in the invested resources? The answer to this question is rooted in the *rule of liquidability*, that prevails as long as agents cooperate in the joint investment without forming a separate legal person, rather than in the mere existence of economies of scale.

<sup>40</sup> See, for example:

and in Israeli law, see:

On the crucial importance of the *rule of illiquidability* in corporate interactions see M. Horwitz's discussion of the efforts to circumvent the old restrictions on mergers by forming "pools," and the failure of such efforts because of their continued subservience to the *rule of liquidability*. Horwitz, *supra* note , at .

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In choosing to invest resources within a corporation, each co-investor reveals his preference to surrender his or her continuous right of liquidation in consideration for the others' surrender of similar rights.<sup>41</sup> Once incorporated, the joint venture becomes compulsory and no longer depends on the continued goodwill and voluntary cooperation of corporate investors.

Formally, because:

$$\sum_{i=1}^I \text{Evi}(\text{Fi}(\text{pkI})) > \sum_{i=1}^I \text{Evi}(\text{F}_{\text{partition}}(\text{pkI}))$$

Whereby,  $\text{Evi}$  denotes the expected value of  $i$ ; *Ex ante*, all agents in  $I$  prefer to surrender their right to file for partition.

In this sense, my theory offers a new understanding of the meaning of vertical integration:<sup>42</sup> as long as parties contract without altering the initial structure of property-based partition, they engage in mere horizontal transactions. But once they form a separate and illiquidable “pocket of wealth,” they already engage in vertical integration. The crucial point is that unlike Williamson’s theory of the firm, in my argument individuals have incentives to engage in vertical integration even in the absence of *transaction costs* or *bounded rationality*. The parties’ need to shield the going concern value against coerced partitions is not dependent on either of these elements.

Previous theories of the firm highlighted several other advantages of managing business activities within the corporate form, like, share-transferability, limited liability, and governance structure. My argument is that the initial incentives to incorporate are rather rooted in the *rule of*

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<sup>41</sup> Incorporation can be regarded as a private means, created by the parties in order to overcome their future tendencies to “over-fragmentation.” For these tendencies, see: M.Heller, “The Boundaries of Private Property,” 108 *Yale L.J.* 1163 (1999).

<sup>42</sup> See: O.Williamson, *The Economic Institutions of Capitalism* (1985).

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*illiquidity*, whereas, these other characteristics of corporate interactions are the operative outcomes of the voluntary construction of an illiquidable pool of resources. The following paragraphs present the other unique features of corporate interactions, and then, discuss their connection with the *rule of illiquidity*.

*2. The Corporation Issues Non-Specific Claims against the Illiquidable Pool:*

The *rule of illiquidity* further renders the agreement between corporate investors fundamentally divergent from typical contracts: in the property-based regime, the owner can either maintain his initial property rights, or, transfer fractions of his wealth to some willing buyer. Upon contract execution, he then receives some *ex ante* defined consideration.

Formally, because the contract *ex ante* determines the values of  $(i,j,p_{ki},x)$ , its expected impact on the partition of resources at the time of execution is determined *ex ante*.

Similar to the typical transaction, when an individual chooses to invest resources within a corporation, he surrenders his property rights in the invested resources. Given the *rule of illiquidity*, he will no longer be entitled to seize the resources from within the corporation. However, the investor does not receive any *ex ante* defined consideration for his invested resources. Rather, he merely receives a claim that entitles him to a relative fraction of the total value of the corporation.

Formally, in return for his investment in the corporation,  $c_n$ , the individual investor,  $i$ , receives a claim against the corporation,  $f_i(c_n)$ ; the claim entitles its holder to a share in the corporation, such that all claims cannot exceed the value of the corporation's resources. Thus,  $f_i(c_n) = 1$ .

Because the value of the resources of  $c_n$  continuously changes over time, the value of the individual's share,  $f_i(c_n)$ , is not determined *ex ante*.

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All investors share in the value of the corporation, such that the value of their shares fluctuates with the value of the joint pool. Accordingly, unlike the typical market transaction, corporate interactions involve *non-specific binding-interactions*.

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*3. The Rule of Majority:*

Because the corporation has a separate personality, it is the corporate-person and, eventually, the corporate organs, that are the bodies authorized to transact and control the corporation's resources.

The set of corporate organs does not necessarily intersect with the set of corporate investors, and therefore, some choice of market agents (namely, the corporate organs' choice) will spill over and transform the assigned resources of other agents (namely, corporate investors). The highest corporate organ -- the shareholders assembly -- is governed by *majority rule*.<sup>43</sup> Having the powers to institute a shareholder action, the majority is further authorized to nominate the Board.<sup>44</sup> The management of the corporation is thus fully controlled by the majority, whose decisions, as well as those of the corporation's delegated organs, continuously transform the investors' wealth.

Formally, the set of decision-makers, i.e., the set of agent in I that are entitled to choose among  $A_i$ , does not intersect with the set of investors, i.e., the set of I, which is entitled to choose among  $A_i$ . Accordingly, spill-overs will occur, in contradiction with the uniqueness of contract-function and with the exclusivity of property rights.

Finally, unlike typical contracts, almost all charter clauses and by-laws are amenable to change by some interested majority; unanimous agreement is not required for changing even the most basic consensual agreements.<sup>45</sup>

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<sup>43</sup> See: Gower, *supra* note , at 544; Pennington, *supra* note , at 648-693; Clark, *supra* note , at ; and in Israeli law, see: section 115(a)(1) of The Companies Ordinance; section of the New Corporations Act.

<sup>44</sup> See: Gower, *supra* note , at 141; Pennington, *supra* note , at 532; Clark, *supra* note , at 94, and the references therein; and in Israeli law, see: section 96.34 of The Companies Ordinance, and standard by-laws 81-84 of Schedule 2; section of The New Corporations Act.

<sup>45</sup> For the distinction between ordinary contracts and corporate interactions, that is based upon the possibilities of charter amendments, see: Bebchuck, "Limiting Contractual Freedom in Corporate Law: The Desirable Constraints on Charter Amendments, 102 *Harv. L. Rev.* 1820-1822, 1826-7, 1828, 1836, 1840-1, 1847-8 (1989).

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*4. The Separation of Ownership and Control:*

In the property regime, ownership is combined with control. One allocation of entitlements applies both to the allocation of resources for consumption and to the allocation of control over the resources.<sup>46</sup> On the other hand, in entering the corporate form, market agents surrender their property rights in the invested resources on behalf of the corporation.

Formally, the *corporate person* must have some necessary competence for being in some *modified property relation* to economic resources: the corporate person must satisfy the *existence of the individual utility profile*, and/or have *alienability competence*, and/or *control competence*. In particular, given the promoters' endeavor to assign their invested resources to compulsory *majority rule*, the corporate person must have *alienability and control competence*, independent of those of its investors.

Following the agents' endeavor to subject their resources to the rule of majority, corporate organs are established and assigned various degrees of authority to manage the corporation's resources and form binding obligations in their regard.<sup>47</sup> Following the rule of illiquidability and unlike the typical agency or trust, no continuous volition on the part of corporate investors is required.<sup>48</sup>

Formally, similar to the R relation, if  $c_i R' p_{kci}$  then  $j R p_{kci}$ ,  $c_j R p_{kcj}$  for every  $j, c_j \in N'$ ,  $c_j \neq c_i$ ,  $k=1, \dots, m$ ; and no other agent is entitled to transfer  $c_i$ 's resources or interfere with its exercised control over such resources without the latter's consent.

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<sup>46</sup> But for the need to redefine property rights, in order to answer the changing demands, see: Sherwin, supra note .

<sup>47</sup> For the requirement to authorize corporate organs in the process of incorporation, see: Gower, supra note , at 18; and in Israeli law, see: standard by-law 71 of The Companies Ordinance, Schedule 2; section of The New Corporations Act.

<sup>48</sup> See: supra, at . Moreover, the authority assigned to corporate organs is exhaustive and, therefore, corporate investors, unlike principles in agency relations and beneficiaries of trusts, do not retain any entitlement to exercise control over their invested resources.

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Yet, unlike the human agent, the corporation does not have any interest in mere consumption. It does not have any preferences or utility-profiles, that are independent of the utility profile of its natural investors.<sup>49</sup> Accordingly, the natural investors remain the sole beneficiaries of the resources' extractable utility value.

Formally, unlike the typical property relation, R, the transformed corporate ownership of resources, R', cannot entitle its corporate holders to the extractable utility value of resources independent of its investors' interests. Rather, it is the natural investors who remain the sole beneficiaries of *the resources' extractable utility value*.

In sum, corporate economy submits the set of economic resources to a regime in which entitlements to the resources' extractable utility values are separated from their control.<sup>50</sup>

*5. The Rule of Limited-Liability:*

Like any natural agent, the corporate person is unlimitedly liable to perform all of its consensual obligations.<sup>51</sup> Nevertheless, because the corporate person

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<sup>49</sup> See Harsanyi, *Essays on Ethics*, at p. 8. Although it is possible to talk meaningfully about the jointly governed pool's "interest in consuming resources," this consumption differs from the one discussed in the traditional exchange market theory: unlike the typical *market agent*, the jointly governed pool cannot extract any immediate utility value upon consumption. Rather, its interest in consuming resources at some time point  $t_y$  consists solely in the expected returns on such consumption at some later point in time,  $t_z$ ,  $z > y$ . In other words, when corporations consume resources at some point in time  $t_y$ , they aim to induce changes on this resource at some later point in time  $t_z$ . Should corporate organs direct their resources to present consumption, they would have to engage in distributing these resources back to corporate investors. Whereas traditional consumption reflects the motivations of individual agents to enjoy their own share of the pie, namely, to extract present utility values from *economic resources*, corporate consumption is only directed at alternating the future pie, namely, investment. Notwithstanding natural agents who succeed in extracting utility value from the corporation's resources due to their position within the corporation. While such utility value might interfere with a corporate person's assignment of resources to production, it cannot constitute an independent utility profile of the corporate person.

<sup>50</sup> For an understanding of the structure of ownership in business entities as an answer to the "tragedy of anticommons" see, H.Hunsmann, *Ownership of Enterprise*, as discussed by E.W.Orts, "The Future of Enterprise Organization," 96 *Mich.L.Rev.* 1947 (1998).

<sup>51</sup> See supra at .

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-- rather than the investors -- is the one entitled to construct binding obligations in regard to its assigned resources, the total pool of resources that is subordinated to comply with the corporation's obligations is the total pool of the corporation's resources, rather than the personal wealth of its investors.

Unlike  $R$ ,  $R^*$  would typically not impose any unlimited liability on corporate investors for the corporation's obligations.<sup>52</sup> And the losses of corporate investors would be limited by their invested resources as, typically, they would not bear any further liability for the corporation's incurred losses (hereinafter, *the rule of limited liability*).

In other words, only the value of  $(p_{1ci}, \dots, p_{mci})$ , is subordinated to the corporation's obligations. The resources in  $\{(p_{1i}, \dots, p_{mi})\}$ , notwithstanding the shares of investors in the corporation, remain unchanged.

In other words, in enabling incorporation, the legal system enables the agents to reform the allocation of the total wealth into separate "pockets," for the purpose of the *collection of debts*. The allocation of wealth will no longer conform to **Figure No. 1** above: on the one hand, the possibilities of incorporation enable individuals to split their personal pocket of wealth, such that each group of legal liabilities will be confined to a fraction of the aggregate value. On the other hand, in enabling incorporation, the law encourages the accumulation of huge amounts of resources within one "pocket," i.e., the corporation's wealth, for the purpose of the collection of debts.

#### *6. Share Transferability:*

Finally, because corporate interactions do not entail personal liability of investors, nor do they yield *in personam* obligations, corporate investors can interchange without violating any reliance interest. Unlike contracts, standard corporate interactions are based on the principle of *share transferability*. Investors are usually free to transfer their shares to some willing buyer

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<sup>52</sup> Such liability would only become possible by piercing the corporate veil. See: Gower, *supra* note , at ; Pennington, *supra* note , at ; Clark, *supra* note , at .

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through an individual transaction, without requiring the consent of other investors,<sup>53</sup> and the corporate charter and by-laws automatically bind every new shareholder.<sup>54</sup>

Formally, because the sources for the collection of the corporation's debts are confined to  $(p_{1ci}, \dots, p_{mci})$ , the values of the investors' personal wealth,  $\{(p_{1i}, \dots, p_{mi})\}$ , are irrelevant for the corporation's creditors. Accordingly, the shareholders may freely inter-change.

d.7. Limited Liability and Share-Transferability: Two Substitutes for Individual

Control:

The above six characteristics of corporate interactions are logically and normatively connected to each other, and they all stem from the *rule of illiquidability* (see: **Table No. 1**).

**TABLE NO. 1: THE DISTINCT CHARACTERS OF CORPORATE INTERACTIONS**

	<i>Unlike Property Rights</i>	<i>Unlike Contracts</i>
<i>Investors surrender their individual control</i>	The Rule of Illiquidability	Non-Specific Binding Interactions

<sup>53</sup> See: Gower, *supra* note 1, at 110; Pennington, *supra* note 1, at p. 110; Clark, *supra* note 1, at p. 110. For the crucial importance of share-transferability, see: Y. Amihud & H. Mendelson, "Liquidity, Asset Prices and Financial Policy," 1991 *Financial Analysis Journal* 56-66; Hirschman, *Exit, Voice, and Loyalty*; M. Eisenberg, "Contractual Freedom in Corporate Law: Articles and Comments; The Structure of Corporation Law," 89 *Colum. L. Rev.* 1461 (1989); J.C. Coffee, "Shareholders versus Managers: The Strain in the Corporate Web," 85 *Mich. L. Rev.* 1 (1986); A. Smith, "Institutions and Entrepreneurs in American Corporate Finance," 85 *Calif. L. Rev.* 1 (1997); and in Israeli law, see: section 52 of The Companies Ordinance; section 23 of The Corporations Act. The lack of a market for the private corporation's shares thus justifies a closer judicial scrutiny over internal corporate decisions. See: NOTE: "Oppressed Shareholders in Close Corporations: A Market Oriented Statutory Remedy," 16 *Cardozo L. Rev.* 501 (1994);

<sup>54</sup> See:

and in Israeli law, see: section 23(a) of The Companies Ordinance; section 23 of The New Corporations Act.

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<i>over invested resources</i>	Separation of Ownership and Control	The Rule of Majority
<i>Substitute protections of individual interests</i>	Limited Liability	Share-Transferability

The higher four elements express the willingness of corporate investors to surrender their initial individual control over their resources on behalf of the joint investment. The two lower elements express the substitute protective mechanisms that were developed in order to secure the interests of individual investors. *Limited liability* and *share-transferability* are necessary conditions for making the investment within the corporation rational for the individual investor.

The higher four elements are logically and normatively inter-related: the *non-specific* nature of corporate interactions stems from the creation of an illiquidable pool of resources. Once the parties create a separate "pocket of wealth" which has perpetual life, some investors must hold the residual claims against the value of the illiquidable pool. Because the aggregate value fluctuates over time, it cannot be continuously equal to any sum of constant claims. Accordingly, some investors must hold *non-specific claims* against the corporation, that would fluctuate with its aggregate value.<sup>55</sup>

*The rule of majority* would have no binding force unless accompanied by the *rule of illiquidability* as, otherwise, every dissenting investor could bar majoritarian decisions by threatening to throw the joint pool into liquidation. In other words, it is the *rule of illiquidability* that makes majority rule

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<sup>55</sup> For the debate over the identity of residual claimants, see, Hunsmann, *supra* note ; and compare with

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compulsory on incorporation. Nor could the *rule of illiquidity* prevail unless accompanied by *majority rule* as, otherwise, collective governance over the joint pool would remain continuously vulnerable to individual holdouts by investors who, rationally, would strive to renegotiate their *ex ante* determined share in the aggregate payoff. Corporate interactions would eventually suffer from inefficiencies and a stagnation that would ultimately lead to liquidation.<sup>56</sup> Given *majority rule*, however, individual investors usually lack the ability to jeopardize the ongoing governance of the joint pool.

Similarly, the *separation of ownership and control* is a direct outcome of *majority rule* and of the *rule of illiquidity*: *majority rule* implies that invested resources are no longer governed by their beneficiaries, and the *rule of illiquidity* implies that such a regime becomes compulsory upon the consent of initial investors to invest their resources within the corporation. Due to the *rule of illiquidity*, the separation of ownership and control can no longer be perceived as a transient stage; unless liquidated, the corporate person will live forever, and no individual agent will be able to exercise individual choice to restore the initial property entitlements.

The *rule of limited liability* derives directly from the *rule of illiquidity* and the *separation of ownership and control*. In entering the corporate form, natural agents relocate invested resources within an illiquidable pool, to be governed by *majority rule*. After the incorporation stage, the strict combination of ownership and control is relaxed. The decision maker set is detached from the investor set,<sup>57</sup> subjecting the investor set to the full outcomes of corporate decisions. Such subordination could not be individually rational without the *rule of limited liability*: if the potential investor expected that by entering the

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<sup>56</sup> This is a variation of the tragedy of anticommons, see, Heller, *supra* note .

<sup>57</sup> See, *supra* at .

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corporation, he would be subjecting all of his personal wealth to corporate liabilities, as formed by corporate organs, he would not invest. His share in the expected profits, if the corporate business were to succeed, would be outweighed by his expected losses if the corporate business were to fail. This outcome applies especially to small investors, whose share in the corporation's profits is minor.<sup>58</sup>

Finally, the *rule of share transferability* results from two other features of corporate interactions: *the rule of illiquidity* and *the rule of limited liability*. Both of these features render the investors' expected payoffs independent of each other's personal wealth. As a result, the reliance interest of promisees on the personal wealth of the promisors is no longer pertinent. Non-controlling shareholders may inter-change without violating any reliance interest, as the total pool of the corporation's resources remains unchanged,<sup>59</sup> and all the new shareholders are bound by all prior obligations.

Furthermore, corporate shares could not have homogenous prices if it were not for the *rule of limited liability*.<sup>60</sup> Otherwise, shareholders would have to attune share prices to expected liability, and eventually, to each shareholder's personal wealth. Because homogenous share prices are necessary for exchange in capital markets, the *rule of personal liability* would have lessened the free *transferability of the shares*.

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<sup>58</sup> For the way that the rule of personal liability discriminates against small investors, see, S.B.Pressler, *Piercing the Corporate Veil*, (Boardman Calaghan).

<sup>59</sup> Therefore, while corporate shareholders can transfer their shares, they would usually be unable to require the corporate person itself to "buy them out." Rather, to translate shares into extractable utility values the corporate investor must recruit some other agent's consent to buy their shares.

<sup>60</sup> See: F.Easterbrook & D. Fischel, "Limited Liability and the Corporation," 52 *U. Chi. L. Rev.* 89 (1985).

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PART 2: THE MEANING OF LEGAL PERSONS: THE STATE SURRENDERS  
ITS MONOPOLY OVER THE PRODUCTION OF MONEY

**a. General**

Building on the framework outlined above, I can now present the gist of my argument, that in enabling incorporation, the State in fact surrendered its monopoly over the production of money. It consists in two distinctions: the distinction between the set of *economic resources* and the set of *paper-claims* against such resources, and the distinction between *defined paper-claims* and *non-specific paper-claims*. The first distinction is between *economic resources*, which provide their holders with direct utility-value, and the various forms of *means of payment*, which merely facilitate the exchange of the former resources (hereinafter, *paper-claims*). The set of *paper-claims* includes both paper-money which is issued by the State, and other means of payment, like debentures and checks.

The second distinction highlights the uniqueness of *money* and the *corporation's shares*, as opposed to all other forms of *paper-claims*: all forms of paper-claims, except for money and shares, provide their holders with some *ex ante* defined claim against a fraction of the resources. For example, a check provides its holder with a defined claim against the issuer's wealth. Similarly, a debenture provides its holder with the right to be repaid some defined sum of money from the borrower. When an individual issues paper-claims, he levers on his personal wealth, because the individual bears personal liability for recovering his obligations. Accordingly, the paper-claim dilutes the issuer's personal wealth, such that the practical capability to issue paper-claims is limited by the issuer's historical wealth.

While money and shares also provide their holders with claims against a pool of resources (i.e., the State's or the Corporation's), such claims are by no

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means *ex ante* defined: *non-specificity* provides that a shareholder does not obtain any entitlement to any pre-defined return on his investment. Rather, the value of his claim fluctuates with the value of the total pool of the corporation's resources. *The rule of illiquidability* together with the *separation of ownership and control*, provide that unless corporate organs decide to allocate dividends, the shareholders are not entitled to seize any of the corporation's resources in order to recover their claim. They can only sell their shares to a willing buyer. Stripped of control or any right to apply for partition, the shareholders' willingness to realize their profits cannot influence the corporation's pool of resources. The exchange of corporate securities is run in capital markets separately from the corporation's business.

The crucial point is that similar characteristics apply to monetary units: although money bears some nominal value, it does not entitle its holder to any defined claim against the State. Rather, because all money cannot buy more than the total set of resources, the actual value of money fluctuates with the value of the State's economy. Finally, like the corporation, the State is also illiquidable, such that the monetary claim does not entitle its holder to forfeit any specific value from the State's resources.

In sum, the shareholders, like the holders of paper-money, do not have any right to be repaid any specific value from within the joint pool of the corporation, or the state, respectively. Rather, all shareholders, like all citizens, share in the value of the joint pool. The more valuable the joint pool of resources becomes – the more valuable the paper-claims that were issued against it. The value of money is contingent upon the state's economy, whereas, the share value is contingent upon the value of the corporation's resources. Furthermore, the shareholder, like the citizen, does not have any

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right to apply for partition. He is not entitled to seize any fraction of the joint pool, in order to recover his claim.

Accordingly, the State, or the Corporation, can issue new paper-claims, without leveraging on its pool of resources. The new paper-claims may only dilute the value of the preceding claims. New money may dilute the value of the preceding money, and new shares may dilute the value of the preceding shares. As a result, the State as well as the Corporation's capability to issue new paper-claims is not limited by its historical wealth.

In other words, the State issued money reflects interactions between the State and its citizens, which incorporate the same six features of corporate interactions. Like the corporation, the State forms an illiquidable pool of resources, governed by the majority. State issued money, as well as corporate shares, reflect the nature of interactions that result from the formation of an illiquidable pool of resources. Once the equivalence of monetary units and corporate shares is established, it becomes clear why, in enabling incorporation, the State has in fact, surrendered its monopoly over the production of money.

**b. Traditional Conceptions of Money:**

The traditional literature splits on the definition of money: According to Knapp, money primarily forms "means of payment," i.e., those chattels which the creditor must receive as settling her debts. "All money, whether of metal or of paper, is only a special case of the means of payment in general."<sup>61</sup>

Now, it is the legal system that determines which chattels the creditor must receive as settling her debts. It is the State that determines which chattels

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<sup>61</sup> Knapp, *supra* note , at p. 2.

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should serve as means of payment: "The general exchange-commodity is, accordingly, an institution of social intercourse; it is a commodity which has obtained a special use in society, first by custom, then by law."<sup>62</sup>

Consequently, the focus on money as a "means of payment" directs Knapp to develop his State theory of money:<sup>63</sup>

"The soul of currency is not in the material of the pieces, but in the legal ordinance which regulates their use."

Economists, like VonMises, on the other hand, concentrate on the function of money as "means of exchange:" "The function of money is to facilitate the business of the market by acting as a common medium of exchange."<sup>64</sup>

The existence of money enables the agents to engage in indirect exchange, such that "Indirect exchange is distinguished from direct exchange according as a medium of exchange is involved or not:"<sup>65</sup>

"... thus, along with the demand in a market for goods for direct consumption there is a demand for goods that the purchaser does not wish to consume but to dispose of by further exchange."

But there will be no indirect exchange, unless the people involved expect to make profits, i.e., "when the goods they acquire are more marketable than

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<sup>62</sup> Knapp, supra note , at p. 3.

<sup>63</sup> Knapp, supra note , at p. 2.

<sup>64</sup> VonMises, supra note , at p. ; see also, J.M.Osteroy & R.M.Starr, "The Transaction Role of Money," in *Handbook of Monetary Economics*, (ed. Friedman & Hann, Elsevier Science Publishers, 1990), at Chapter 1.

<sup>65</sup> VonMises, supra note , at p. 30.

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those which they surrender."<sup>66</sup> VonMises's focus on money being a "means of exchange" directs him to develop an evolutionary concept of money:<sup>67</sup>

"Now, all goods are not equally marketable. While there is only a limited and occasional demand for certain goods, that for others is more general and constant...

It was in this way that those goods that were originally the most marketable became common media of exchange, i.e., goods into which all sellers of other goods first converted their wares and which it paid would-be buyer of any other commodity to acquire first. ...

Thus the requirements of the market have gradually led to the selection of certain commodities as common media of exchange.... Thus there would be an inevitable tendency for the less marketable of the series of goods used as media of exchange to be one by one rejected until at last only a single commodity remained, which was universally employed as a medium of exchange; in a word, money."

In sum, the traditional legal literature mainly addressed the function of money as "means of payment." Accordingly, legal definitions described money as those chattels, that the creditor must receive as settling the debt. The economic literature, on the other hand, preferred to focus on the main economic role of monetary units, i.e., its serving as a "means of exchange." Accordingly, traditional economic theories of money centered on tracing those chattels that in fact served as a means of exchange; their economic functions, and their sources of value. Furthermore, while the traditional legal theories concentrated on qualifying the monetary unit, and on distinguishing it from any other chattel or claim; the economic literature focused instead on

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<sup>66</sup> VonMises, supra note , at p. 31.

<sup>67</sup> VonMises, supra note , at p. 32-33.

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quantifying the value of money. Consequently, while the legal definition incorporated the State theory of money; the economic definition pointed to an evolutionary concept of money.

The State theory of money directs Knapp to conclude that money can, and in fact does, gain its intrinsic value according to the nominal unit-of-value, that was assigned to it by the State. Accordingly, the State has the power to convey value to chattels; a value that is independent of their initial intrinsic value. The State has the power to render "dodo bones" valuable chattels;<sup>68</sup> and thereby, can issue as many nominal units of value as it pleases. The evolutionary concept of money, on the other hand, asserts that money gained its intrinsic value by economic forces that preceded the State's intervention. Those chattels which in fact came to be used as means of exchange gain their intrinsic value, not by the State powers, but rather by their distinct features, which make them eligible to serve as means of exchange.<sup>69</sup>

Both of the traditional conceptions were, however, insufficient. Knapp's State theory of money accurately captures the fact that money is rooted in a social-institution; that it is the Community or the State that makes it possible for a

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<sup>68</sup> Because of the nominal value of money, even radical theories of money, which widen the scope of paper-claims that fall under the definition of money, do not challenge the state monopoly over the production of money. See, S.M.Goldfeld & D.E.Sichel, "The Demand for Money," in *Handbook on Monetary Economics*, supra note , at Chapter 8, p. 313-318.

<sup>69</sup> Anderson details these characterizing features:

1. Widespread and intense desire for the thing...
2. Scarcity of the commodity in question.
3. Divisibility of the commodity.
4. Considerable development of the market.
5. That the demand for the article should be more than local.
6. That it be cheaply transportable.
7. That commerce between localities in the article be unrestricted.
8. That demand for the article be constant, not fluctuating, in time.
9. That the article be durable.
10. That it be uniform in quality, so that standardization is easy."

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chattel to have some circumscribed unit-of-value independent of its extractable utility value. Yet, Knapp's nominalism makes the theory artificial and inaccurate, from an economic perspective. The economic value of money always goes back to its purchasing power; and, all the money in the Community or State will not buy more than the total available set of real-resources.<sup>70</sup> The real value of money is not determined by its nominal unit-of-value, nor does it remain constant over time. Rather, it depends upon the market agents' utility profiles, and fluctuates with the fluctuations in the total set of real resources in the Community or the State (=the budget-curve). Indeed, the State's bureaucrats enjoy discretion to issue paper-money, and assign to it some nominal value. Nevertheless, they by no means retain any direct control over the budget curve or the utility profiles of the market agents. Thus, while the State can issue as much paper-money as it pleases, it will not thereby determine the real value and quantity of money.

The evolutionary concept of money, on the other hand, does remain strictly loyal to market forces, and their yielded indirect exchange. Nevertheless, it appears inaccurate and somewhat anachronistic because it overlooks the fact that the purchasing-power of the monetary unit is directly linked to the community or the State, within which it serves as "means-of-exchange." Even in a Community, within which only precious metal serves as means of exchange, the purchasing power of the metal's unit of weight is fixed by some rule of the community. Furthermore, the community or the State does not have to restrict its means of payment to precious metals. Rather, it can proceed to employ paper-money as a means of exchange, and issue as much paper-money as it pleases. The quantity of paper-money can influence the

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See, Anderson, *supra* note , at p. 403-404. For the role of money in the general equilibrium theory, see, Walras, *supra* note (treating money as a resource of its own, to which the demand and supply curves apply as well.)

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exchange, as well as market agents' savings and investment decisions, and thereby, affect the real value of money as well. Yet, the evolutionary concept of money denies the ability of the State to issue as much paper-money as it pleases:<sup>71</sup>

"...let it be expressly stated that all that the law can do is to regulate the issue of the coins and that it is beyond the power of the State to ensure in addition that they actually shall become money, that is, that they actually shall be employed as a common medium of exchange."

This theory denies the State's powers to render "dodo bones" valuable chattels: "We conclude, then, that money must have value to start with, from some source other than the money function, if money is to circulate or to serve as money in other ways."<sup>72</sup>

Consequently, this concept of money seems to belong to an old era, when the quantity of money was fully determined by the arbitrary quantity of gold (or silver) within the community or the State, and when human-agents did not yet realize that monetary units are not necessarily scarce, because the community can at least control the circulating amount of financial-resources. This traditional dichotomy ends with Keynes' *Treatise On Money*. Keynes begins his treatise by the classification of money and money of account:<sup>73</sup>

"A Money-of-Account comes into existence along with Debts, which are contracts for deferred payment, and Price-Lists, which are offers of

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<sup>70</sup> There is a widespread agreement that the function of money as unit of account is the least significant of money's roles. See, Ostroy & Starr, *supra* note , at p. 4.

<sup>71</sup> VonMises, *supra* note , at p. 60.

<sup>72</sup> Anderson, *supra* note , at p. 153; although, Anderson also defines metallism.

<sup>73</sup> Keynes, *supra* note , at p. 3.

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contracts for sale or purchase. Such Debts and Price-Lists... can only be expressed in terms of Money-of-Account.

Money itself, namely that by delivery of which debt-contracts and price-contracts are discharged, and in the shape of which a store of General Purchasing Power is held, derives its character from its relationship to the Money-of-Account, since the debts and prices must first have been expressed in terms of the latter."

Like Knapp, Keynes chooses to define money as "means of payment," and to connect the concept of money with the existence of debts. Furthermore, he rejects the view that the chattel's being a "means of exchange" is sufficient in order to make it qualify as monetary unit:<sup>74</sup>

"Something which is merely used as a convenient medium of exchange on the spot may approach to being Money, in as much as it may represent a means of holding General Purchasing Power. But if this is all, we have scarcely emerged from the stage of Barter. Money-Proper in the full sense of the term can only exist in relation to a Money-of-Account."

Accordingly, Keynes adopts Knapp's *State theory of Money*:<sup>75</sup>

"Now by the mention of contracts and offers, we have introduced Law or Custom, by which they are enforceable; that is to say, we have introduced the State or the community.... [the State] comes in doubly when, in addition, it claims the right to determine and declare what thing corresponds to the name, and to vary its declaration from time to time -- when, that is to say, it claims the right to re-edit the dictionary. This right

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<sup>74</sup> Keynes, supra note , at p. 3.

<sup>75</sup> Keynes, supra note , at p. 4-5.

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is claimed by all modern States and has been so claimed for some four thousand years at least. It is when this stage in the evolution of Money has been reached that Knapp's Chartalism --the doctrine that money is peculiarly a creation of the State-- is fully realized.

... Today all civilized money is, beyond the possibility of dispute, chartalist."

However, unlike Knapp, Keynes responds to the economists' challenges, and continues from the State Theory of Money, to develop a general economic theory of money. Being an economist, Keynes enters into all issues that interest the economic community. He deals with quantification and measurement of the value of money. Furthermore, unlike Knapp, Keynes does not connect the State theory of money to nominalism. Rather, he develops a general theory of the impact of monetary policies on the value of money, and on investment and savings. Therefore, his version does not involve the artificial notions that were attached to Knapp's State theory of money. Like other economists, Keynes is also aware of the fact that the State cannot issue as many units-of-value as it pleases, because the purchasing power of money will also fluctuate accordingly. After Keynes, the tendency of both jurists and economists is to adopt a synthesized concept of money, that reflects both the State theory of money, and the main function of money as "means of exchange:" "Money is a means of payment or medium of exchange."<sup>76</sup>

Accordingly, the current classification generally remains loyal to the State theory of money, but distinguishes among three possible classifications, denoted M1,M2,M3. M1 includes only currency, travelers' checks, demand

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<sup>76</sup> Dornbusch & Fischer, *supra* note , at p. 345.

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deposits in commercial banks, and other checkable instruments.<sup>77</sup> M2 also includes all forms of deposits that are made for savings, and limit the ability of the holder to write checks against such account. Some of the texts further divide between M2 and M3, such that M2 only include overnight repurchase agreements, small time deposits and savings deposits in commercial banks, savings deposits at thrift institutions, and money market mutual fund shares; and M3 further include large time deposits [\$100,000 or more], and large negotiable certificates of deposits, and term repurchase agreements.<sup>78</sup>

**c. Illiquidity and Limited-Liability: The Analogy between Corporate Securities and Paper-Money:**

All of the above concepts of money emphasize my first distinction, i.e., the distinction between a chattel that can provide some extractable utility value; and a chattel that mainly serves as means of exchange. In describing autometallism,<sup>79</sup> Knapp points out that upon holding a precious metal:<sup>80</sup>

"The holder can make use of his property in one of these two ways, but not in both at once. He can either use it in some craft, thus obtaining "real" satisfaction, or else obtain other commodities with it, when his satisfaction is derived from its value in exchange.

The possibility of "real" satisfaction is undoubtedly a necessary condition for any commodity becoming a socially recognized exchange-commodity."

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<sup>77</sup> This is the definition that is used in transactional theories of money, i.e., theories which focus on the role of money as means of exchange. Savings are not available for immediate transactions, and therefore, they do not mirror the demand for means of exchange.

<sup>78</sup> Dornbusch & Fischer, *supra* note , at p. 347.

<sup>79</sup> Autometallism is a regime where only precious metals serve as means of payment.

<sup>80</sup> Knapp, *supra* note , at p. 5.

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Then, Knapp continues to distinguish between autometallism and nominalism:<sup>81</sup>

"The metallist always receives a means of exchange to be an exchange commodity....

"But there are means of payment which extend beyond this simple form, namely, those which are not commodities except in so far as law makes them so. The most important case is real genuine paper money."

Similarly, when Keynes defines the sorts of real wealth, he refers only to resources that are eligible for present consumption, or, that are to become eligible for consumption in the future.<sup>82</sup>

But what does it mean to say that a chattel's value mainly consists of its purchasing power? It means that this chattel is not an *economic resource* of its own, but rather, it forms a *paper claim* against such resources. In order to gain some positive utility value, the holder of such chattel must engage in a transaction, whereby the monetary unit is exchanged in consideration for some real resource.

The recognition that paper money consists of paper claims to economic resources leads to my second distinction. The inquiry into the unique characteristics of paper money, as opposed to other sorts of paper claims, reveals that money reflects interactions that satisfy the same six distinct features of corporate interactions, discussed above. Consequently, state issued money is equivalent to corporate shares.

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<sup>81</sup> Knapp, *supra* note , at p. .

<sup>82</sup> See, Keynes, *supra* note , at p. 128. This definition overlooks the possibility that illiquidable pools retain quasi-ownership of economic resources, such that even though the

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First, all the above concepts of money emphasize that the monetary claim is characterized by the *rule of transferability*. In order for a chattel to serve as "means of exchange or means of payment," it must be freely and easily transferable, for some homogeneous price.

Second, as the economists' conception of money emphasizes, all the monetary units cannot buy more resources than the total available set. Accordingly, while monetary units bear some constant nominal value, their actual value fluctuates with the value of the total set of resources. Like the outcomes of *the rule of illiquidability* together with *non-specificity* in corporate interactions, each monetary unit entitles its holder to some fraction of the aggregate set of resources, such that the sum of all fractions equals one.

Formally, each monetary unit enables its holder to buy some fraction  $f_M$  of the total set of the state's resources,  $(p_1, \dots, p_m)$ . Also, all of the monetary units cannot buy more than the aggregate set of resources, and therefore the sum of all such fractions equals 1, i.e.,

$$\sum f_M = 1.$$

The above equation means that all citizens share in the value of the total set of real resources, such that the value of each monetary claim fluctuates with the value of the aggregate set of real resources. Yet, because the monetary unit does not entitle its holder to recover any defined value from within the State's pool of resources, nor can an individual file for partition or liquidation of the State, the exchange of monetary units is run separately from the aggregate set of real resources.

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resources are feasible for present consumption, the organs of the illiquidable pool decide to maintain the resources within the pool.

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Third, the value of the money paper claim can never be negative. This character coincides with *limited liability*: the State's citizens do not bear any personal liability for the State's debts, simply by virtue of their holding State-issued money.

Finally, the deep meaning of Knapp's *State Theory of Money* is that the State itself forms an illiquidable-pool of resources, following its citizens' submission to its rule of law. The validity of the monetary-claim is secured upon this submission. While the State cannot control the actual value or quantity of money, it can control its validity as a means of payment. Paper money, as opposed to precious metals, bears positive value upon the institution of some form of "rule of law." Once the State disappears or merges with some other States, the merger will be accompanied by the construction of some new currency. This means that, like corporate interactions, the interactions between the State and its citizens are also characterized by some form of centralized governance: the set of the State's officials does not intersect with the set of citizens, and, given illiquidability of the State, such regime is compulsory and does not rely on continuous goodwill and voluntary cooperation of all citizens. In other words, the State involves some form of majority rule, or separation of ownership and control, and its capability to issue valuable paper money is directly linked to this governance structure.

Note, however, that the analogy between paper money and corporate shares does not imply full similarity, because the two forms of illiquidable pools are not exactly the same. First, the corporation strives to mandate direct control over its pool of resources, whereas the State would usually entrust the real resources to private owners. The control of State bureaucrats would usually be confined to monetary policy. Second, while the corporation issues new

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shares in order to widen its set of real resources, the State's issuance of new paper money merely results in the diffusion of its value.

Third, money still enjoys some advantage over corporate securities, as far as means of payment are concerned. Because State courts enforce the repayment of debts in State issued money, rather than corporate securities, monetary units still form the ultimate means of payment. Nevertheless, this advantage is the outcome of historical developments, rather than any unique character of money. Once a chattel does not provide its holder with any utility-value of its own, but rather its value consists in the possibility to exchange the chattel in return for some resources, the *liquidity* factor becomes essential. The more awkward the exchange is expected to be, the less valuable this chattel becomes. In this respect, state-issued money still pertains some advantage over other paper-claims.<sup>83</sup> Nevertheless, as time passes, and the exchange of corporate shares in capital markets becomes more reliable, state-issued money gradually loses this advantage. Furthermore, once an agent can lever on his corporate-shares, and take loans from a bank in state-issued money, in order to cover a judicially declared debt, the advantage of state-issued money in courts is diminished as well.<sup>84</sup>

Finally, contrary to the conventional wisdom, corporate paper claims were accepted as having meaningful value, long before State issued paper money was perceived as such.<sup>85</sup>

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<sup>83</sup> For a focus on liquidity as the unique feature of money, as compared with other stores of value, see, F. Hann, "Liquidity," in *Handbook of Monetary Economics*, supra note , at Chapter 2.

<sup>84</sup> Note that the importance of liquidity in fact stems from the rule of illiquidability: it is this rule that forces the holders of non-specific claims, state-issued money or shares, to exchange the paper claims against some other resources, in order to extract utility value. Accordingly, the easiness of exchange becomes a crucial factor. For the impact of liquidity of share value, see, Y. Amihud & H. Mendelson, "Liquidity, Asset Prices and Financial Policy," 1991 *Financial Analysis Journal* 56-66.

<sup>85</sup>

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**d. The Distinction between Traditional Money Substitutes and Corporate Shares:**

In fact, authors have long found it appropriate to refer to money of account or valuta money,<sup>86</sup> as distinguished from current money<sup>87</sup> or money substitutes.<sup>88</sup> While the former kind of money referred to those monetary chattels which the State issues, the latter referred to bank-notes and credit claims, which in fact serve as a means of payment or a means of exchange. These economists emphasized how the existence of money-substitutes reduces the demand for real money, because the more transactions are settled through the mere exchange of such claims -- fewer monetary units are required to execute the transactions.<sup>89</sup>

Nevertheless, these money substitutes were never considered to be in violation of the State monopoly over the production of money, because they referred to specific claims against the issuer's wealth. The money substitutes did not reform the partition of resources into separate "pockets of wealth" for the purpose of collection of debts. Accordingly, whenever a Bank, or any other institution, issues some money-substitute -- it bears unlimited-liability to repay some nominal sum of State-issued money to the holder of such claim. Indeed, a sequence of transactions might be completed without any holder calling upon the issuer to answer the claim; and therefore, the mere existence of money-substitutes partially covers the demand for monetary-units. Nevertheless, it always remains the holder's option to choose between transferring her bank-note to another agent, and calling upon the Bank to

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<sup>86</sup> Knapp, supra note , at p. .

<sup>87</sup> Keynes, supra note , at p. .

<sup>88</sup> Anderson, supra note , at p. .

<sup>89</sup> Anderson, supra note , at p. .

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meet the claim. If the holder chooses to call upon the Bank, the latter must employ its real-resources or State-issued money, in order to cover the claim.

Whenever a bank issues money-substitutes, it levers upon its historical wealth. Either following regulations or a sound business policy -- the Bank must always attune the amount of issued notes to its historical wealth.<sup>90</sup>

While money substitutes influence the demand for money, they by no means interfere with the State monopoly over the production of money, or, with the prevalence of the historical distribution of wealth.

Consequently, even though, the traditional theories of money were attuned to the existence of various paper-claims, that affect the demand for money, these theories still remained within the paradigm of the State’s monopoly over the production of money. The traditional theories focused on money substitutes that involve leverage on the issuer’s “pocket of wealth,” and therefore, did not account for the equivalence between state issued money and corporate shares.

The traditional theories were misled by the *nominal value* of money: because monetary units bear some defined nominal value, that seem to mirror their value in the exchange, the traditional theories tended to include within the set of money substitutes only paper-claims that provide their holders with some defined value as well. Yet, following the framework of the present work, it is rather the *non-specific* nature of monetary claims and corporate shares that make them distinct from all other paper-claims. It is the *illiquidable* nature of

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<sup>90</sup> Indeed, early economists believed that market forces regulate the issuance of paper-claims, because each issuer attunes the amount of claims issued to the value of his resources. Yet, according to Keynes, regulations are requisite, because the reciprocal use of claims may enable the bubble burst, i.e., it is possible that in an endless chain, each bank slightly increase its quantity of issued notes, following the increase in the notes of other banks, etc. See, Keynes, *supra* note , at p. .

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both the state and the corporation, that enables these institutions to issue new paper-claims, without leveraging on their historical wealth, and it is the *non-specific* nature of such claims, that enables the state or the corporation to go on issuing new claims without limitations.

The real value of money consists in its purchasing-power, and all money cannot buy more than the total set of resources. Accordingly, the true purchasing power of money is contingent upon the aggregate set of monetary claims, rather than on its nominal value. Like the corporate share, the monetary claim is *non-specific*, because it does not entitle its holder the right to seize any defined claim from within any “pocket of wealth,” but rather it merely entitles its holder the power to share in the aggregate pool of the State’s resources.

**PART 3: FROM A “DISTRIBUTION OF HISTORICAL WEALTH” TO A  
“DISTRIBUTION OF DREAMS”**

The above analysis explains the important role of the corporate form in enabling huge groups of strangers to accumulate their wealth within giant pools of resources, and cooperate in productive activity. The property-based partition along with the State monopoly over the production of money led to a regime where the historical distribution of wealth prevailed into the future: first, unless one engaged in a transaction, he continued to hold his historical wealth into the future. Second, the purchasing-power of each individual was determined by his historical wealth. Third, the historical distribution of wealth determined a history-based distribution of the resources into “pockets of wealth” for the purpose of the collection of debts. Each owner’s sub-set of resources was subordinated to all of his liabilities, but his creditors could not seize any other fraction of the social wealth to cover his debts.

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Accordingly, when an individual chose to engage in investment, he could either invest his own personal wealth, or, take loans and thereby lever on his personal wealth. In either case, the financial resources, that were available for production, were limited by the entrepreneur’s historical wealth. Finally, the possibilities of individuals to join together in the productive activity were also limited, because of the rules governing ownership-in-common and partnerships.<sup>91</sup>

The corporate form, on the other hand, enables huge groups of strangers to cooperate in the joint investment. Stripped of control or any other defined claim against the corporate resources, individual opportunism cannot threaten to thwart the value of the joint investment. The free transferability of shares protects the individual investors against opportunistic behavior on the part of corporate organs.

Yet, beyond these advantages, the distinct features of corporate interactions mean that the corporation can produce paper-claims that are equivalent to state-issued money. Accordingly, the corporate form enables the entrepreneurs to produce their own financial resources, and thereby overcome the limitations imposed by the historical distribution of wealth. Due to the *rule of illiquidability* together with *non-specificity*, when the corporation issues paper-claims, it does not have to lever on its historical wealth. Theoretically, it can produce as many paper-claims as it pleases. Practically, because in producing finance, the corporation competes with other corporations, its ability to produce valuable paper-claims is determined by *the expectations regarding the future returns on the corporation’s investments*.

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<sup>91</sup> As the discussion above shows, ownership in common and partnerships can only fit closely-knit groups. See, the discussion supra at text to notes

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Consequently, once incorporation is allowed, the prevalence of the "distribution of historical wealth" is overtaken by a regime that is mainly governed by the "distribution of dreams" about the future. First, capital markets encourage a competition among producers over the wealth of investors. The more promising the dreams regarding the corporation's future returns, the more valuable the finance it can produce.

Second, the purchasing-power of all individuals, and eventually, the current market prices are also influenced by the distribution of dreams about the future: the corporate person issues shares in return for money, thereby acquiring purchasing-power. Unlike human beings, corporations do not have any interest in mere consumption. The corporate person lacks any utility-profile. Its demand for real-resources is mainly determined by the expected returns on the corporation's business activity. Consequently, its acquired purchasing-power as well as its use are influenced by the "dreams about the future" of the corporation's business activity, rather than by history-based factors. In a corporate economy, where corporations hold a major fraction of the total wealth, they can influence the current demand for real resources, and eventually, the current market prices. Because of the corporations' unique preferences, they render the current prices of real resources contingent upon the "dreams about the future" as well. Finally, individuals who invest in corporate shares can trade the shares for presently consumable resources. Thus, their purchasing-power is also influenced by the expectations regarding the future returns on corporate investment.

Third, the historical distribution of wealth no longer determines the distribution of resources into separate "pockets" for the purpose of the collection of debts: in the process of incorporation, investors transform the property-based partition. They can either split their pockets of wealth into

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separate smaller pools, or, accumulate huge pools of resources within the joint pocket of the corporation.

The far-reaching implications of this shift are hard to describe, and exceed the scope of the present work. I will settle here in pointing out several straightforward implications. First, market equilibria are defined by the market prices of real resources. In the traditional property-based market, competitive market prices were mainly derived from the aggregation of the agents' utility profiles, i.e., the present demand for real resources, given the budget curve and the historical distribution of wealth. Yet, once corporations hold a major fraction of the total eligible wealth, current market prices are influenced by expectations regarding the future of the various investments.

Second, in an effort to widen future demand for the corporations' products, corporations strive to gain free access to foreign markets. Thus, once the State surrenders its monopoly over the production of money on behalf of corporations, a competition is triggered between the two forms of illiquidable pools. The corporation can improve its ability to produce valuable finance either by weakening the State's sovereignty or by securing free access to foreign markets.

Finally, the corporate economy encourages cooperation, rather than competition, among the local markets. Because the corporation has a direct interest in the future demand for its products in foreign markets, it also has a direct interest in securing the purchasing power of market agents in these foreign markets. Accordingly, it aims at maintaining a certain level of success in foreign economies. This interest may further put pressure on the States to reduce their sovereignty.

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These implications are not confined to economic and legal theories, but further transform the traditional political debate: the traditional debate is between deregulation and state intervention. While the former ideology points to the efficiency of free competitive markets, the latter ideology highlights the harsh distributive outcomes of natural evolution. Similarly, while the first ideology supports enabling corporate law rules, the latter ideology emphasizes the separation of ownership and control, and calls for interventionist corporate law to protect dispersed shareholders.

However, if the State and the corporation came to be competing forms of illiquidable pools, then the political debate is transformed as well, and focuses on the desirable balance between the two forms of institutions. Even if the debate continues to focus on the enabling versus the interventionist ideology, it acquires a different content. Those who argue for deregulation can no longer settle in pointing to the efficient outcomes of the property-based market, but must continue to prove the normative desirability of a free competition among the various forms of illiquidable pools. Those who support State intervention can no longer settle in pointing to the arbitrary nature of the historical distribution of wealth, but must further establish the advantages of the State hegemony over the hegemony of corporations.

In light of the growing strength of giant corporations, their influences on political processes, and their recurrent efforts to reduce the State's sovereignty, these choices will be of major importance for the next generations.