

# Delineating the Process of Fictive Commodification in Advanced Capitalism

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## Abstract

Intangible commodities are, in general, non-rivalrous and therefore require the ascription of some property rights to induce the claim to ownership. New Institutional Economics (NIE) attempts to account for this commodification process through a framework in which agents solve externality problems by establishing property rights through bargaining. We argue that this is wholly unconvincing theoretically and empirically. A more complete and accurate account of the commodification of intangibles is found in Karl Polanyi's (2001[1944]) concept of the fictitious, or fictive, commodity. By extending the fictive/real dichotomy into a continuum, intangible commodities can be located in accordance with their degree of for-market intentionality in production. This approach – in contrast to Marxian and neoclassical theory – presupposes a legal structure through which conscious legal actions *create* the economic value of intangible property. The framework is applied to the historical emergence of two groups of intangible commodities: financial derivatives and intellectual property (IP). We find that the ascription of property claims to these intangible commodities is initiated by non-efficiency motives. Therefore, the emergence of commodified uncertainty and knowledge (respectively, derivatives and IP) is best described as a Polanyi-esque process of fictive commodification.

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## I. INTRODUCTION

In the disruptive and uneven transition from early to advanced capitalism, certain trends have continued with little abatement. One such secular trend is the expanding inclusion of incorporeal things into the market as intangible commodities. Intangible commodities are, in general, non-rivalrous and therefore require the ascription of at least some property rights to induce the claim to ownership. New Institutional Economics (NIE) attempts to account for this commodification process through a framework in which agents solve externality problems by establishing property rights through bargaining. We argue in Section II that this is wholly unconvincing theoretically and empirically. A more complete and accurate account of the commodification of intangibles is found in Karl Polanyi's 2001[1944] concept of the fictitious, or fictive, commodity. Section III extends the fictive/real dichotomy into a continuum along which intangible commodities can be located in accordance with their degree of for-market intentionality in production. This approach – in contrast to Marxian and neoclassical theory – presupposes a legal structure through which conscious legal actions *create* the economic value of intangible property. Section IV applies this framework to the emergence of derivative contracts as the commodification of uncertainty. Section V does the same with respect to copyrights and patents which constitute the two predominant forms of knowledge commodification. In both cases the ascription of property claims have been initiated by non-efficiency motives and are therefore best described as a process of fictive commodification. More broadly, we seek to integrate the Polanyian political economy framework with the legal theory and doctrine of property rights. Doing so provides a more accurate, complete and purposeful account of intangibles' commodification in advanced capitalism.

## II. PROPERTY RIGHTS AND EXTRA-LEGAL VALUE

This section argues that the two dominant theories of economic value – scarcity and labor – are independent of socio-legal structures. We refer to these value theories as 'extralegal' in the sense of linear independence: objective economic value and legal

rules can be theorized separately and then brought together through a kind of analytical linear combination which generates a ‘net value’ that one might observe as a market price. The value of intangible commodities cannot be assessed in this way. The economic value of intangibles is constructed (if you like, nonlinearly) through the social and legal norms of property rights. The labor theory of value is largely inapplicable to intangible commodities. Neoclassical value theory, by contrast, attempts to account for the commodification of intangibles by an anachronistic projection of efficient market norms to the historical emergence of property rights. We begin with a brief summary of the legal theory of property rights.

### *II.A) An Overview of Property Rights: A Nested Bundle*

The ability to exclude other persons from the occupation, use or sale of an object is a universal aspect of human society and essential for the organization of economic activity under any political economic system. Yet, the law of property has proven eminently malleable over time and space.<sup>1</sup> The flexible nature of property as a concept is key to understanding why a legal tradition that can be traced back to Roman land law continues to be used in legal disputes regarding genomics, computer code and the wireless data spectrum (Radin, 2011; Weiser and Hatfield, 2008; see generally Epstein, 2010). The core of this flexibility stems from the shifting interpretation of property from a right inherent in a thing (*in rem*) to the now-universal view of property as a nested bundle of rights.

Wesley Hohfeld’s (1917) analysis of “fundamental legal conceptions” undergirds the ‘bundle of rights’ view of property. Property rights embody, in Hohfeldian terminology, a mix of claims, privileges, powers and liabilities. These “multital relations” elaborate and differ from Roman law, in which *in rem* contains the right to possess, use and dispose of a thing (Epstein, 2010, p. 465). In his famous exposition, Honoré (1961) cites eleven separate legal incidents (9 rights, privileges and powers; 2 liabil-

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<sup>1</sup>What this malleability implies for legal theory is a subject of much debate. Thomas Gray’s (1980) ‘disintegration of property’ thesis asserts that the term ‘property’ is so amorphous that it is of little practical or conceptual use. Conversely, Heller (2001) suggests the puzzle is the paucity of property forms under the *numerus clausus* enumeration.

ities), which together constitute complete ownership.<sup>2</sup> The prohibitions, limitations and nuanced claims discussed by Honoré,<sup>3</sup> are inseparable from the legal doctrine of property ownership. These details are largely ignored in neoclassical and Marxian theories. As we show below, these divergent schools' underdeveloped treatment of property share a common source: an objective, extra-legal theory of value.

Before turning to the exposition of the labor and scarcity theories of value, two caveats are in order. First, the formulation of the nested bundle of property rights varies by author. Here we adopt and slightly expand Getzler's (1996, p. 354) five-point list in which private property entails:

1. possession of the physical thing owned, exclusive occupation;
2. rights to exploit, change, reorder, and manage;
3. rights to the flow of income from rights 1 and 2;
4. rights to transfer, exchange, and destroy rights 1, 2, and 3; and,
5. rights to transfer right 4.

We rely on this list for its simplicity. However, it omits mention of prohibitions and limitations. We therefore include:

6. the liability to expropriation of rights 1,2 3, 4 and/or 5 by private or public parties under certain, pre-specified circumstances.

The second caveat is that we are neither proposing nor rejecting any specific theory of value. The negative goal is to demonstrate the limits of the two pre-eminent theories of value vis-à-vis intangible commodities. The positive goal is to demonstrate that only a framework in which socio-legal institutions, at least in part,

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<sup>2</sup>These incidents are: the right to possess; right to use; right to manage; right to the income; right to the capital (including alienation); right to security (from expropriation); absence of a term limitation; prohibition against harmful use; liability to execution (i.e., to use as collateral), and; the residuary or default-rule character of property under contract. Honoré (1961, p. 371) notes that the right to possess is “the foundation on which the whole superstructure of ownership rests.”

<sup>3</sup>His explicit goal is to “redress the balance” in property theory “by emphasizing that the owner is subject to characteristic prohibitions and limitations” (Honoré, 1961, p. 371).

construct economic value can fully account for the emergence of *inter alia* intangible commodities.<sup>4</sup> Though beyond the present scope, either or both objectivist value theories could, in principle, be made compatible with the Polanyian approach described here.

## *II.B) The Commodity and Commodification in Marx and Polanyi*

Commodification is typically understood as the process of bringing items (goods) or performances (services) under the logic of capitalist markets. This definition does not logically necessitate a legal structure for commodification, nor even for capitalism itself.<sup>5</sup> Without an account of the socio-legal process of commodification, there can be no account of the emergence intangible commodities such as derivative securities, corporate equity, patents and copyrights. The analytical limitation of this commodification view has its origin in Volume I of Karl Marx's *Capital* (1990[1867], ch. 1) in which an objective definition of 'commodity' is proposed. The commodity, according to Marx, possesses a dual use-value / exchange-value character. For Marx the use-value of things is inherent in the object whether it is the product of human action or part of the natural environment. Exchange value is the hallmark of the commodity: a magnitude that takes form only by the juxtaposition of distinct use-values in market exchange. The definition homogenizes any and all market-exchanged objects precisely because commodities' value magnitudes "equate their different kinds of labour as human labour" (Marx, 1990[1867], p. 166). In other words, a commodity can be objectively identified as any object that is traded on value-assigning markets.

The objective labor theory of (exchange) value ignores the creation of value through a legal edict which states that some intangible thing is property. When Marx (1990[1867], p. 131) discusses the presence or absence of use-value and exchange value, he ignores the case in which a thing (tangible or not) has exchange

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<sup>4</sup>On constructive institutions in the Polanyian tradition see Maucourant and Plociniczak (2013).

<sup>5</sup>Insofar as capitalism is defined as the purposeful organization of production and exchange for private profit, which we believe is the only definition of capitalism broad enough to encompass its many forms (e.g. Hall & Soskice, 2001) while being consistent with authors such as Weber (1992[1930]) as well as Polanyi's (2001[1944]) *The Great Transformation*.

value but is devoid of use value.<sup>6</sup> This accords with his elaboration that “the use-value of every commodity contains useful labour” Marx (1990[1867], p. 132-3, emphasis added). Intangible commodities are therefore ruled out because ‘production’ by legal edict, rather than through the application of useful labor, contains no useful labor even though the ‘products’ may include utility.

Use-value without useful labor is of course well understood by Marx. Both labor and nature contribute to utility. By stripping away the former one is left with a “material substratum [that] is furnished by nature without human intervention” (Marx, 1990[1867], p. 132). Thus he notes without contradiction that air, water and virgin forest contain utility because these material substrata remain un-commodified by wage labor. The implication is that the conversion of any natural object into a commodity must contain a non-zero input of “useful labor” by, say, trucking the thing to market.

Such an interpretation is mistaken. The rationalization that some labor is embodied in every commodity is not logically necessary in a system of well-developed property rights. More to the point, it applies neither to intellectual property, specifically, nor to intangibles, generally. While the apple plucked from a forest can be said to contain embodied labor (i.e., in the plucking)<sup>7</sup>, the same cannot be said for that apple when it is claimed by edict.<sup>8</sup> Marxian’s may counter that the claimed

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<sup>6</sup>Marx (1990[1867], p. 131) may have implicitly had this case in mind when he says “nothing can be a value without being an object of utility”, insofar as intangible commodities do have utility. However, the explicit connection of use value to useful labor later in the text belies this interpretation.

<sup>7</sup>This metaphor of attaching your labor to an object in the natural environment and claiming it as your own is the basis of the so-called Lockean labor-desert view of property rights. Indeed, the labor theory of value is inspired by classical liberalism and the Scottish enlightenment, yet Marx’s view of property rights is one of the most significant ruptures with liberalism in Western philosophy (Stillman, 1980). Perhaps the lacuna of intangible commodities could be explained by further analysis of this point.

<sup>8</sup> An objection might be raised at this point that the development of a legal structure for property rights requires a great deal of labor. But, according to Marx’s definition, this would not count as useful labor and would have no place in determining value. Useful labor is “labour whose utility is represented by the use-value of its product, or the fact that its product is a use-value. In this connection we consider only its useful effect” (Marx, 1990[1867], p. 132). The apple owned merely by the existence of a property right has utility that is wholly independent of the labor expended in the establishment and maintenance of the legal system.

apple is a “fictive” commodity in that it is without a direct labor input. Such an argument, however, goes beyond Marx’s actual commodity definition<sup>9</sup> and stills fails to offer a serious account of how property rights codify commodities’ value.<sup>10</sup> While this may help explain why Marxist scholars have had such little interest in the legal forms of property rights (see Getzler, 1996, p. 644), the conclusion is clear: Marxian commodification is a dead end.<sup>11</sup>

### II.C) Neoclassical Theory: Pareto Efficient Commodification

Neoclassical theory also defines commodities objectively as things that are bought and sold in markets.<sup>12</sup> Following Marx, neoclassical commodification – equivalently, privatization – is the process of making things with utility available on the market.<sup>13</sup> Value is then determined objectively via the simultaneous maximization of two agents’ subjective utility.<sup>14</sup> It follows that, in the absence of the explicit construction of intangibles’ value by society’s laws, the commodification of intangibles amounts to a tautology: property rights are assigned so that value-assigning exchanges can

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<sup>9</sup>“If the thing is useless, so is the labour contained in it; the labour does not count as labour, and therefore creates no value” (Marx, 1990[1867], p. 131). Yet the claimed apple, which is part of the ‘material substrata’, most certainly has use-value and, *by dint of its property rights*, has exchange-value. See footnote 8 above.

<sup>10</sup>So limited would be the realm of ‘non-real’ commodities as commodities-without-labor that the assignment or abnegation of property rights would become a trivial concern. Property rights would continue to be of little importance to Marxian economic analysis despite their centrality to intangible commodities.

<sup>11</sup>Marx was of course aware and greatly concerned with the legal institution of property rights. However, because property rights are part of the legal superstructure erected atop economic reality, his concern is primarily with the deleterious effects of private property on the realization of individuality and liberty (see Stillman, 1980), rather than with the economic role of property.

<sup>12</sup>“The decision problem faced by the consumer in a market economy is to choose consumption levels of the various goods and services that are *available in the market*. We call these goods and services commodities” (Mas-Colell, Whinston, & Green, 1995, p. 17; emphasis added).

<sup>13</sup>The difference being Marx’s emphasis on commodities’ heterogeneous utilities versus neoclassicals’ *a priori* homogenization of utility into the value magnitude. See discussion below.

<sup>14</sup>The convolution of objectivity and subjectivity in neoclassical value theory may give non-economists pause. Value is objective because agents’ endowments, technology and preferences are determined by non-economic things like history and psychology. That each agent’s personal preferences are unique and unobservable leads to them being cast as ‘subjective’, even though this is a misnomer insofar as standard economic methodology takes these as given.

take place because the property has value.<sup>15</sup> This does not mean intangibles or the law have been ignored. The Law and Economics theory of property rights attempts, and ultimately fails, to bring intangibles into the fold of neoclassical theory through a transaction cost minimization analysis of economic law. The source of this failure is the extra-legal basis of value theory: The State merely recognizes or fails to recognize the objective value of commodities by assigning complete or incomplete property rights. As show below, extra-legal view of intangibles' value relies on the anachronistic revision of historical development through the ascription of modern norms of efficiency.

Neoclassical property rights theory is a recent development that grew out of Coase's Theorem. The early classical giants, Adam Smith and David Ricardo, were little concerned with property rights *per se* than about productive versus unproductive uses of resources. Indeed Smith's view of wealth creation is synonymous with the production of physical goods.<sup>16</sup> The property rights over such commodities is rarely disputed. Ricardo (2004[1817]) develops his proto-marginalist analysis of distribution based on the presumption of an exploitative, unproductive landowning class. Again, this account of wealth creation and distribution treats private property as a basic, but not elaborate, element. Later neoclassical writers followed this tradition insofar as "they implicitly assumed the existence of a perfect-ownership system" (Demsetz, 2002, p. S654), preferring instead to focus on the efficient allocation of the presumptive rights.

Economists' lacunae vis-à-vis property rights began to shift slowly from the 1930s onwards,<sup>17</sup> until the question of externalities was radically reshaped in Ronald Coase's (1960) famous article "The Problem of Social Cost". Despite being fre-

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<sup>15</sup>Ultimately this stems from methodological individualism's interdiction of socio-legal influences on value since all economic phenomena are, by design, reducible to individual choices.

<sup>16</sup>Modern economists tend to ignore Book I Chapter 11 of *The Wealth of Nations* in which Smith (1994[1776]) offers a lengthy discussion distinguishing productive labor (essentially the creation of physical goods) from unproductive labor (including both non-economic employments with, for example, the state and religious institutions as well as services that dissipate upon use).

<sup>17</sup>While property rights theory has long been an important area of legal thought, it was not until traditional disciplinary boundaries were blurred by legal realists such as Cohen (1935) and Hale (1922) and reactionary economists who waded into political waters such as Hayek.



quently misunderstood,<sup>18</sup> Coase’s thesis provides the foundation for the neoclassical theory of property rights as the tool that efficiently solves externalities by lowering the cost of market transactions.

Coase (1960) argues that transaction costs always exist but that the law can reduce these through the full and unambiguous *ex ante* assignment of liability for third-party harm. Fulsome property rights, as the absolute dominion over an object and its impacts, effect extremely well-defined liability rules. With well-defined rights and liabilities, Coase showed that the bargaining outcome (i.e., the price and quantity of rights exchanged) would be the same regardless of the law’s initial assignment of ownership rights. Moreover, the unique bargaining outcome is Pareto optimal. The social cost question was thereby recast. No longer was the “victim” of an externality identified by a moral or factual inquiry, but rather by the legal positive question: who does not hold the property right? In essence, Coase’s argument shows that ascribing property rights to incorporeal harms optimally minimizes harm because the legal reification of their value enables rational agents to freely allocate these rights – i.e., freedom from harm – to their highest value through standard market mechanisms.

In spite of some foundational flaws in proving that bargaining outcomes are necessarily efficient (see Halpin, 2007; Hahnel & Sheeran, 2009), there is an indisputable soundness to Coase’s argument. Namely, when transactions costs are lowered through amended social or legal rules, people’s energies are freed from tiresome negotiations and may be put toward other, more utility-enhancing endeavors. This kernel of insight has been carried forward into Law and Economics (e.g. Schwartz & Scott, 2003) and, to a lesser extent, Contract Theory (e.g. Bolton & Dewatripont, 2005). Yet, nowhere is the Coase Theorem’s transaction cost argument more prevalent than in New Institutional Economics (NIE) theory of property rights that is ubiquitously, if implicitly, employed by all neoclassical economists.

Alchian and Demsetz’s (1973) “Property Rights Paradigm” is the modern archetype of economists’ anachronistic projection of a market society logic to economic change

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<sup>18</sup>What later became known as “Coase’s Theorem” fundamentally misrepresents Coase’s original argument (see McCloskey, 1998; Coase, 1988, p. 157-8) as a proof of a unique Pareto optimum bargaining outcome over externalities when transaction costs are zero (Hurwicz, 1995).

and development (Polanyi, 2001[1944], ch. 12). In the launching article, Demsetz (1967, p. 348, emphasis added) explicitly posits the existence and emergence of modern property rights as the functional solution to externalities via lowered transaction costs:

A primary function of property rights is that of guiding incentives to achieve a greater internationalization of externalities. Every cost and benefit associated with social interdependencies is a potential externality. One condition is necessary to make costs and benefits externalities. The *cost of a transaction in the rights* between parties (internalization) must exceed the gains from internalizations.

The connection to Coase's argument is evident in the appeal to property rights' efficient functionality in enabling bargaining solutions. Demsetz's innovation is to apply Coase's central insight to *all* property and *all* externalities including, crucially, the overuse problem of common pool resources.

Demsetz's key historical example is the establishment of private property by the Algonquin and Iroquois in Eastern Canada following the development of a fur trade with European colonizers. While this new market significantly increased the value of fur trapping, Demsetz (1967, p.351-3) projects the *reason* for parceling out hunting grounds as the solution to a common pool resource problem (i.e., the overhunting of game). This *ex post facto* rationalization might be correct, but it might just as well be false.<sup>19</sup> Either way, Demsetz's fails to reasonably demonstrate it. Moreover, the ambiguity cannot be resolved by arguing the tribes' commodification of the forests in effect successfully internalized the supposed externality. Economists' "as if" proposition, while sometimes methodologically sound in formal models, is in no way applicable to the explanations of historical phenomena.<sup>20</sup>

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<sup>19</sup>Alternatively, one could posit a purely ideational explanation in that extensive economic interaction between tribes in Eastern North America led to the transference of individualistic norms, such as the allotment of private property. Or, the issue may have been the exclusion of competing tribes' access to hunting for political reasons. Further there are non-maximizing economic rationalizations such as the *ex ante* sharing of the gains from the fur trade (i.e., a redistribution goal). In all likelihood, each of these reasons (including Demsetz's) likely entered the decision-makers "calculus". The point is, however, that that "calculus" was surely not the cost-benefit analysis which Coase was advocating to be applied to modern legal issues in England.

<sup>20</sup>The historical ascription of unconscious intentions to past actions is valid only within a well-

The irony is that the transaction cost basis of property rights still leaves neoclassical theory with an extralegal value theory unable to account for intangible commodities. In a vein remarkably similar to Marx, the social argument for commodifying hunting land or English manors (Alchian & Demsetz, 1973, p. 25) is that the total value – benefits less costs – is inherent in the thing. Property rights merely allow for metering this extant value.<sup>21</sup> This is the central element of neoclassical value theory: the State affects only the transaction costs surrounding an exchange and not the true value of the commodity itself, which is mutually determined by the trading agents. There is some basis for this assertion regarding physical commodities insofar as an agent’s expected utility may be said to be inherent in the object. Yet the very essence of ‘intangible’ is that *there is no object*. The ascription of property rights to intangibles induces the scarcity of otherwise non-rivalrous intangibles and, in so doing, changes the character of the intangible’s use-value to include any utility from exclusion and alienation. The altered, partially constructed, character of the “propertized” intangible cannot be accounted for in the neoclassical framework because use-value and exchange value are measures of the same substance which property claims merely increase. A singular, homogenous market value is an *a priori* condition for the law’s internalization of externalities that is the basis of neoclassical property theory. Market value stands before the law, and market law – as a microcosm of the market society – must conform to its logic by recognizing that extant value.

To recapitulate, the value of a commodity is determined by the process of rational agents striking a bargain in the market<sup>22</sup> (viz. the sum of embodied labor). On this basis, Alchian and Demsetz (viz. Marx) consider the commodity as having an extralegal value which is realized only when property rights are assigned to the possessor of the commodity (viz. the laborer). The State’s codification of a commodity as property does not create or alter value, but merely allows full value to be realized.

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developed framework of structuralist forces (e.g. Bourdieu, 1984), which is decidedly absent from methodological individualism.

<sup>21</sup>The need to ‘meter’ input and output values figures prominently in their property rights theory as well as in their theory of the firm (see Alchian & Demsetz, 1972).

<sup>22</sup>Given some pre-specified technological possibilities, endowments and preferences, of course.

As put by the masters themselves, “An attenuation in the bundle of [property] rights that disallows exchange at market clearing prices will also alter the allocation of resources” away from the welfare maximizing allocation (Alchian & Demsetz, 1973, p. 20-1). It is not the commodity’s value that is infringed upon but the ability to profitably exchange for that value. While the Marxian perspective is the polar opposite – codification enables capitalist extraction of value — the State’s action under either value theory merely increases or decreases market values relative to some objective measure. The profit-maximizing basis of neoclassical economics can therefore account for intangible commodities only by projecting individualistic rational actions onto their emergence. Sections IV and V describe why this is anachronistic with respect to derivatives and intellectual property.

Finally, we must mention Demsetz’s widely cited 2002 update, “Toward a Theory of Property Rights II”, that expands upon the neoclassical account of the emergence and justification of property rights. While an important contribution in many respects, the value of property remains fundamentally extralegal.

Commendably, the attempt to broaden the functional basis of property rights beyond externalities leads to some discussion of the social-legal system (Demsetz, 2002, S664). Attachment to methodological individualism, however, renders this appeal superficial, at best. Demsetz is driven by the need to account for (and limit) theft and taxation. Such takings cannot be construed as externalities because they do not change “the technical rate of conversion of inputs into outputs” (Demsetz, 2002, S656). Thus, rather than affecting a commodity’s “net value” by raising the cost of exchange, takings diminish *true value* directly.<sup>23</sup> It follows that the legal system should minimize such value diminution by affording maximal protection against unlawful private and lawful public takings (i.e., neuter point 6 above). However, this argument does not eliminate the extralegal nature of neoclassical value theory. Maximal protection against theft and taxation merely allows for the full and true realization of the commodity’s value, which is otherwise suppressed by criminals or populist regulations.

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<sup>23</sup>One must read this paper extremely closely and generously to extract this kernel of theoretical progress.

Demsetz’s (2002) extension of the neoclassical theory of property rights is the example *par excellence* of the equalization of property with economic value. It is no matter whether an object is illegally taken (theft) or its value legally diminished by the State (tax), both are non-market attenuations of property-cum-value. This logic holds only if property is defined as a thing with economic value and economic value is the basis of property.<sup>24</sup> It follows that any diminution of value not done through private market competition is an attenuation of the owner’s property rights (see also Alchian, 2008). This argument is particularly worrisome since, when carried over to intangible property as in Spulber (2014), it means that all intellectual property and derivatives contracts should be given full, unending property status (see Section V). Fundamentally, neoclassical value theory allows for no legal or economic distinction between an apple, the golden arches or mortgage-backed securities. All have value because they would be privately owned. Reaching such a homogenized view of property-cum-value requires one to circle the wagons of logic around the individual so as to keep out the social norms embodied in law.

### III. A NASCENT FRAMEWORK FOR COMMODITY DELINEATION

Karl Polanyi (2001[1944]) shifts from Marx’s structuralist moorings by introducing the intentionality of production for the market as a necessary aspect of the ‘true’ commodity.<sup>25</sup> This explicitly ideational conceptualization greatly complicates the economic analysis. However, Polanyi’s commodity definition yields two substantial improvements over restrictive objectivist views. First, from the intentionality of production logically follows a duality between commodities as such, and “fictitious commodities” (Polanyi, 2001[1944], p. 75-6). A fictive commodity is a thing traded in markets that was not produced for the market. Polanyi enumerates three commodity fictions that were necessary for the establishment of capitalism: nature, human activity and purchasing power were *falsely* commodified as, respectively, land,

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<sup>24</sup>On the law’s transcendental nonsense in this regard see Cohen (1935, p. 815).

<sup>25</sup>“Commodities are here empirically defined as objects produced *for* sale on the market; markets, again, are empirically defined as actual contracts between buyers and sellers” (Polanyi, 2001[1944], p. 75, emphasis added).

labor and money. We argue that commodity dualism can be seen as a continuum of intentionality that runs from pure commodity fictions to real produced-for-market commodities.<sup>26</sup> The second, related benefit of Polanyi’s definition is its inexorable connection to the social construction of economic value (see e.g., Granovetter, 1985; Zajac & Westphal, 2004). Polanyi’s *Great Transformation* demonstrates how social and legal efforts aimed at fictive commodification led to the emergence of capitalism. As we argue below, these elements are able to explain the emergence of intangible commodities as newly formed fictive commodities in advanced capitalism. In what follows we discuss the three ‘original’ fictive commodities as well as the two new fictive commodities identified by Albenaz Azmanova (2010) – knowledge and uncertainty.<sup>27</sup>

### *III.A) Fictive Commodification as Propertization: Rights and Value Creation*

The duality of commodity types – fictive and real – proposed in Polanyi (2001[1944]) provides a foundation upon which we erect an economic framework that qualitatively distinguishes and, at the limit, categorizes various commodity types. Unlike neoclassical and Marxian theory, this framework posits *ex ante* a socio-legal structure of the bundle of property rights. This structure informs the legal boundaries of different commodities’ rights, powers and liabilities. As such, it also directly modifies the social and individual valuation of commodities. The approach therefore accommodates different modes of value construction insofar as construction emanates from specific legal doctrines of property. The starting point of the framework is a ‘continuum of intentionality’ that runs from the pure fictive commodity at one pole, to the real produced-for-profit commodity at the other. In conjunction with the assessment of property right elements ascribed to a commodity, this continuum offers a nascent methodology to *qualitatively distinguish* commodities and their exchange value. We outline a basic categorization below.

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<sup>26</sup>Although it is beyond the present scope we hope this economic dualism may also be mapped onto the property duality (from personal to fungible) suggested by Radin (1982).

<sup>27</sup>While she considers risk commodification (which we refer to as uncertainty, see note 28 below) to be the defining feature of a “emergent new modality of capitalism” (Azmanova, 2014, p. 155), the commodification of knowledge began in an earlier era. Nevertheless, the commodification of both is a relatively recent phenomenon that occurred in the advanced stages of capitalist development.

There is but one purely fictive commodity: land. Nature is historically and categorically prior to human institutions. Since land, water and air unequivocally exist without human action or intention the assignment of property rights to these elements is fictive commodification *par excellence*. The ascription of any aspect of the property right bundle (occupation, use or sale) is therefore a fictitious commodification. Importantly, this is not to say the codification of land as a commodity is morally wrong or somehow ‘incorrect’. Rather, it is to note that the social and economic principles that operate in the market for land are substantively different from those that operate in the market for, say, computers. As one moves along the continuum of intentionality away from the singular case of nature, qualitative distinctions persist even as clear-cut categorization ebbs.

Uncertainty<sup>28</sup> is the next rung along the continuum. Broadly there are three types of uncertainty. Natural uncertainties are, of course, devoid of intentionality (e.g., hurricanes, floods, precipitation, windiness, etc). Next, there are distinct human uncertainties that are without any market rationality. This includes death, violence, political upheavals and shifting social mores. Finally, there is the uncertainty that emanates directly from market activity and profit seeking behavior (e.g., strategic default, market risk, lying, theft, liquidity crises, etc.). None of these uncertainties are produced for the market even though the last category emerges *from* it. Derivative securities are therefore properly considered as a near-perfect fictive commodity insofar as market participants may purposefully induce volatility for gain (e.g., the recent [HSBC forex manipulation](#) and [Libor scandals](#)). As elaborated in Section IV, derivatives are, in the first instance, contracts over contingent outcomes (i.e. bets). The property status of derivative contracts has grown along with the

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<sup>28</sup> We refer to ‘uncertainty’ as the intangible thing commodified in derivative contracts. This follows Frank Knight’s classic distinction between risk and uncertainty (see Section III.B below). In Knightian terms, ‘uncertainty’ rather than ‘risk’ is what Azmanova’s (2014) identifies as being commodified. There should be no confusion in moving from her terminology to the more commonly employed language in economic theory which draws on Keynes’s (1937, p. 213-4) famous quote: “The game of roulette is not subject, in this sense, to uncertainty; nor is the prospect of a Victory bond being drawn [... Rather, uncertain knowledge is used in the sense that] the prospect for a European war is uncertain, or the price of copper and rate of interest twenty years hence, or the obsolescence of a new invention”.

freedom to buy and sell these enforceable claims once they are written.

The intentionality is muddled in the realm of human activity and knowledge. Though labor is represented as the essential fictive commodity in *The Great Transformation* it, like intellectual property (IP), shifts away from a ‘pure’ fiction into the middling gray as soon as (some) property rights are ascribed. Through most of pre-capitalist history, humans and their ideas were not produced for the market.<sup>29</sup> Once legally codified as commodities, however, there is little doubt that people develop skills and ideas *for* the market. Indeed, the incentive for gains from bringing high-demand skills and ideas to market is the central justification for costly education, and for the temporary monopoly on the use and sale of scientific ideas (patents) and artistic creations (copyrights). Although pure fictions in origin, today a not insignificant degree of human skills and knowledge is produced for the market. Conversely, without commodification knowledge and skill would still exist. Hence, labor and IP’s movement from the fictitious pole toward real commodity status is not absolute. Similarly, the ascription of property rights to each remains incomplete (see Sec. V).<sup>30</sup>

Along the intentionality continuum, derivatives, labor and IP all take positions between the two extremes. Figure 1 places derivatives closer to the fictive commodity end because the purposeful production of riskiness is, in general, illegal (you can bet on it, but you may not generate uncertainty for profit). It seems plausible that the marketization purpose of human skill development lies somewhere between artistic creations (copyright) and scientific knowledge (patents), since the former are still produced for purely aesthetic reasons while the latter are geared toward increasing the technical efficiency of production.

The relative position of the three latter fictions is rather loose as it depends on the individual’s state of mind during creation. This points to a recursive aspect

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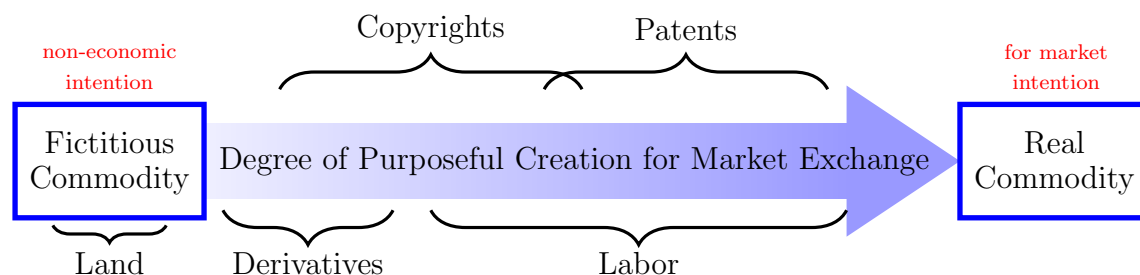
<sup>29</sup>Indeed one cannot even say that the prevalent practice of slavery around the world induced the production of slaves *for* a market. Most enslavement followed loss at war – which was not conducted for the purpose of enslavement – or by dint of an unlucky birth. The British slave trade, however, represents an important break from non-market slavery.

<sup>30</sup>Labor as a service hired through a work contract may not be thought of as property. However, rights to sell and benefit from one’s own labor, as well as to be free from personal exploitation, is similar in content and scope to the six-point bundle listed in Section II.A.



of commodification through property rights: greater property rights codification increases incentives to produce intangible commodities for the market; producers then demand greater property right protections for those commodities and the attendant streams of income. However, unlike in neoclassical theory, this process of ‘proper-tization’ is not premised on the realization of an extant value. Quite the opposite: commodity fictions exist historically and logically prior to the market. Legal edicts making these intangibles ‘available on the market’ *create* new exchange values and alter the content of their use-value. Something is lost, something is gained; but a bargained solution to an externality this is not.

**Figure 1:** Continuum of Intentionality and Commodity Types



### III.B) Money as the unique fiction: a digression

The preceding delineation of fictive commodities along the continuum in Figure 1 omits a crucial, but unique, fictitious commodity: money. Though definitively fictive,<sup>31</sup> money is so central to modern markets that it occupies a unique place among the categories of fictitious-ness. Polanyi (2001[1944], p. 75-6) describes the commodification of purchasing power (or, the unit of account) occurring at the international

<sup>31</sup>As Polanyi (1957, p. 264, emphasis added) writes, money as means to settle social debt predates the market economy by millennia: “The payment use of money [to discharge social obligations] belongs to its most common uses in early times. The obligations *do not here commonly spring from transactions.*” Admittedly some clever society may have developed their money *for the market* (i.e., consciously solving the divisibility problem as a form of transaction cost minimization as the Law and Economics school would have it). Even if that were the case, money would still be a fictive commodity in Polanyi’s definition because it is a social mechanism to facilitate trade rather than an item developed to be traded.

level through the gold standard. Thus, money was not commodified through the conferral partial or full property status *ex nihilo*. Rather purchasing power was commodified by attaching it to an existing commodity. The centrality of money to the livelihood of productive enterprises, Polanyi (2001[1944], ch. 16) argues, led to a counter-movement establishing central banks to regulate the domestic price level through fiat currency. Polanyi omits, however, the commodification of fiat money through private banks' creation of credit for profit. Nonetheless Polanyi lays the foundation to move toward the commodification of fiat money in his rejection of the Quantity Theory of money (Polanyi, 2001[1944], p. 203-5).

Polanyi's (1957) historical analysis requires the rejection of the Quantity Theory because it treats money merely as the particular commodity that happens to serve as *numeraire*. Although he does not develop the argument further, a credit-based view of modern money (see e.g. Moore, 1988) would seem to be next logical next step in accounting for money in advanced capitalism. Keynes (1964[1936], 1937) famously sets out on such a path in developing the liquidity preference theory of money. He rejects Say's Law, and hence the Quantity Theory, that the supply of loanable funds (i.e., savings) generates its demand (i.e., investment). Instead, since banks are the ultimate arbiters of borrowed funds, for-profit institutions guide, if not precisely determine, the aggregate level of credit and investment in the economy. In other words, total credit is not a technical determination of multiplying the pool of aggregate savings, but stems from banks' issuance of credit according to their pursuit of profit and subject to their liquidity preferences and expectations about the economy.

Keynes's insights effectively add another dimension to the commodification process vis-à-vis money. Although central banks create a non-commodified unit of account, it is immediately brought into the logic of the capitalist markets as a commodity that is being sold for profit in the form of credit. Money as debt, however, remains distinct from other financial instruments such as equity and derivative securities. Bank credit commodifies fiat money, whereas derivatives commodify the uncertain fluctuations that attend market economies. To clarify this point we now turn to an historical account of how the commodification of uncertainty arose in the

United States.

#### IV. DERIVATIVES: THE COMMODIFICATION OF UNCERTAINTY

Commodification of intangibles requires institutional, often legal, change such as the conferment of property status. Such changes do not occur in an economic vacuum: political pressure to ‘propertize’ intangibles as commodities emerges when new profit possibilities arise. Successful appropriation of profit leads, in turn, to strengthened calls for property protections. Unlike the NIE interpretation, the fictive commodification process is not propelled by efficiency or free market norms. Rather political and personal profit motives are inferred, which may or may not be socially beneficial. We describe this commodification-via-propertization process for uncertainty presently and for knowledge in Section V.

The historical commodification of uncertainty describes a process that follows the evolution of two types of derivatives with different degrees of propertization, namely exchange-traded (ET) and over-the-counter (OTC) derivatives. The former are traded under formal, but private, institutional arrangements, while the latter are not. ET contracts are enforced by the private law of those institutions, whereas OTCs are enforced, if at all, by statutory law and the courts. In both cases it is shown that the commodification of derivatives was driven by the desire for profit and not for the solving of an externality (i.e., uncertain future prices). While hedging may represent derivatives’ internalization function, they can also be used for inefficient, but profitable, speculation. Yet, interested parties have actively worked against efforts to limit derivatives trading to bona fide hedging.<sup>32</sup> Profit was the motive and it could be best secured by a property status that preempts any legal question about the purpose of trading derivatives.<sup>33</sup>

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<sup>32</sup>In recognizing the leading position of new profit opportunities the stylized history bears a similarity to the efficiency explanations of New Institutionalists. Our explanation of intangible commodities emergence substantively differs in that: (i) there is no presumption that profit is efficient or welfare improving, let alone maximizing, because; (ii) propertization of intangibles requires socio-legal recognition which is beyond the capacity of private contractual agreement.

<sup>33</sup>Except, of course, for the case of antitrust restrictions.

As discussed in Section III, uncertainty enters the fictive commodity category as a thing that is not produced *intentionally for* the market yet is packaged into a commodity, the derivative security.<sup>34</sup> The fictive commodity nature of derivatives is obscured because they are typically designed around price uncertainty in debt, equity and commodity markets. In this sense commodified uncertainty is a product of modern, often volatile, markets. The commodity nature is further obfuscated by the contractual basis of derivatives. Unlike a pure contract over property the bearer of the future, option or securitized bundle is not named in the agreement. Derivatives are commodified as property precisely because the holders have the legal and social right to alienation (point 4 in our list). The free sale and purchase of derivatives means that these contracts obtain *sui generis* property rights. For whom the courts enforce these contracts is not found in the language of the agreement, but by establishing who is the rightful *owner* of the contract.<sup>35</sup> Reaching this level of legal enforceability was a long, winding process.

The history of institutionalized derivatives markets in the US starts in 1848 with the founding of the Chicago Board of Trade (CBOT). The CBOT emerged in the wake of demographic and economic changes that flowed from the opening of the Erie Canal in 1825. From 1820 to 1830 Indiana's population doubled and that of Illinois tripled.<sup>36</sup> By allowing for easy passage of the Appalachian Mountains the population boom was concurrent with the rapid development of agricultural production, particularly corn and grain, that would be profitably shipped to the East Coast and beyond. Of course, large farming operations around Lake Michigan

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<sup>34</sup>There are three basic forms of the derivative. Forwards, or futures, are an obligation to exchange commodities (money and something else) at a certain future date at a set price. Options are the same as forwards except that one party is able to decide whether to enact the exchange (exercise) or let it expire at maturity because she is 'out of the money'. The third form is securitization. This is a more recent phenomenon and entails the bundling of different tranches (i.e., qualities) of other financial claims such as mortgages or corporate debt into a single claim. Swaps fall into different categories. Interest rate swaps are similar to futures, whereas a credit default swap (CDS) is insurance against default and therefore has contingent payouts similar to options.

<sup>35</sup>Courts will not recognize the possessor's pecuniary claim if the derivative is 'stolen' or otherwise obtained fraudulently.

<sup>36</sup>From 147,000 to 343,00 in Indiana and from 55,000 to 157,000 in Illinois. By 1840 the populations had again doubled and tripled to 686,000 and 476,00, respectively (see Volpe, 2002).

are at the mercy of the volatile prairie weather. Need for guaranteed sale prices at harvest led to the establishment of forward delivery contracts. Forwards allowed producers to hedge against price collapses by offering upside gains to risk-bearing counter-parties. The risk-bearers, on the other hand, had much to gain if they were not tied to physical deliveries. Thus began a specialization of contract negotiators who sold on the risks to other parties.

Conveyance of the contracts requires an institutional structure to recognize and enforce the anonymous contractual claims. State and federal courts, however, were unwilling to enforce futures contracts.<sup>37</sup> Simple delivery contracts would be enforced, but not the ‘speculative’ kind that allowed for the contract itself to be traded as a commodity in its own right, as this was too much like raw gambling for the courts to abide (Stout, 2008, p. 10-1). Without recourse to official legal channels, traders established their own institutional structure for enforcement – the most famous and important of which was the CBOT.

The CBOT began as a non-profit, self-regulating, membership-based organization with its own rules and procedures for how to handle future contract disputes. The enterprise eventually started to trade commodity options in addition to futures. The institution was perpetuated by a system of private dispute resolution, which granted a limited social sanction to the wide, *in rem* scope of tradable contracts (Carruthers, 2013; MacKenzie & Millo, 2003, p. 112). These exchange organizations faced competition from storefront “bucketshops” that allowed trading without the need of membership or use a member broker. These OTC precursors typically had very short lifespans. “Bucketshops” went into bankruptcy frequently and were thus rendered unviable. Remarkably, private institutional arrangements generated the first effective, if limited, propertization of derivative contracts and, hence, of uncertainty. This *laissez faire* capture of profit opportunities would come under increasing

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<sup>37</sup>There were several economic reasons for legislators’ hesitancy about derivatives and their speculative function. First, because speculation is a zero-sum game, the dedication of resources to such an activity implied a reduction of resources from truly productive areas. Second, speculators often had power over the variables they were betting on, implying that they could exercise market power. Finally, judges also were concerned that such activities increased volatility, increasing the risk of an undue reduction in social welfare (Stout, 2008, p. 12-14).

scrutiny as financial volatility became a wider social concern.

The first half of the 20th century saw derivatives come under increasing regulation and systemization. MacKenzie and Millo (2003, p. 113) argue that the rationale for the regulatory changes, such as the effective outlawing of ET options, is found in the political and social revolt against speculators as the generators of the 1929 crash and subsequent Great Depression. As a result, heretofore self-regulating exchange-traded futures would be publicly overseen and off-exchange derivative trading was banned outright (Stout, 2008, p. 17). In 1936 the Commodity Exchange Act (CEA) was renewed to prohibit “trading in future contracts unless it was conducted on an exchange designated as a ‘contract market’ ” (Carruthers, 2013, p. 3). The mess of competing regulatory agencies led to the establishment of the Commodity Futures Trading Commission (CFTC) under the CEA in 1974. These post-Depression legal changes were all aimed at limiting speculation and market manipulation through transparency, while maintaining derivatives’ efficiency-enhancing function.

The over-the-counter (OTC) derivatives,<sup>38</sup> at the time known as off-exchange futures, did not meet the criteria of transparency or price discovery. The statutory requirements therefore made OTCs illegal – a much stronger step than simply refusing to enforce the contracts. OTC derivatives remained illegal and, therefore, virtually non-existent until the 1980s (Carruthers, 2013; Stout, 2008, p. 27).

Contemporary deregulation of the derivatives market started with the push to re-legalize exchange-based options. Proponents won legal sanction in 1974 and established the Chicago Board Options Exchange (CBOE). As MacKenzie and Millo (2003) demonstrate, the CBOE was able to push for institutional support of exchange-based financial derivatives trading by using the Black-Scholes-Merton model that “proved” the efficiency of option pricing. This was followed by a wider push for the deregulation of other OTCs, such as interest rate swaps which were legalized at the end of the 1980s. A number of financial institutions already trading in OTC swaps pressured the CFTC to disregard the exchange requirements imposed by the CEA on swaps. In response, the Futures Trading Practices Act of 1992 gave the CFTC the

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<sup>38</sup>An OTC is a type of derivative that involves only a private bilateral transaction – no exchange venue serves as regulator.

authority to exempt various types of OTC derivatives from the CEA. In 1993, OTC swaps were further deregulated by removing the CEA non-speculation requirement. By the end of the 1990s, speculative trading in most derivatives was deemed legal and enforceable (Stout, 2008, p. 19-20). The contracts were becoming property in their own right, tradable for any personal motive (point 4 in Sec. II.A).

A small-scale counter-movement led by the CFTC against this propertization started in 1998. However, by then the bargaining power of the financial industry was great enough that it persuaded Congress to enact legislation to limit the CFTC's authority over the OTC derivatives. In 2000 the Commodities Future Modernization Act (CFMA) was signed into law. It excluded nearly all financial derivatives from CEA limitations (Stout, 2008, p. 21-2). The CFMA effectively ended the long process of transforming derivatives into property by enabling the free exchange of all OTCs, rather just interest rate swaps. Although OTC trading was limited to "eligible contract participants", this category included all interested parties such as banks, corporate pension funds, mutual funds, and the wealthy.

The long march towards commodification that started in the second half of the 20th century was finally challenged by the outrage levied at Wall Street in the wake of the 2008/09 global financial crisis.<sup>39</sup> The 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act was an attempt to roll back some aspects of uncertainty commodification. Title VII, for example, deals with OTC derivatives and establishes a "clearing requirement" on all speculative financial derivative contracts (which is an analog of the CEA requirements). In essence this means that speculative futures must be traded in organized exchanges. These "derivatives clearing organizations" are to be sanctioned by the CFTC based on their self-enforcement capacity.<sup>40</sup> Thus, the Dodd-Frank Act sets the basis for a return to the market structure that existed before the 1980s, where enforceable, tradable contracts are limited to exchange venues. In limiting the location of valid derivatives, the Act rolls back, to some extent,

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<sup>39</sup>This recent history is drawn from Carruthers (2013).

<sup>40</sup>The self-enforcement implies "assuming liability for performing the trade, setting membership eligibility and capital requirements, requiring the traders post collateral ('margin') to ensure performance, making daily settlements of contracts, and setting standards for accepting contracts of trading" (Stout, 2008, p. 34).

the ‘proptertization’ of the derivative contracts. However, Title VII allows for these derivatives to be traded outside exchange organizations if the trading parties have valid hedging reasons. Thus, loop-holes remain in the roll back.

In addition to enforcement problems, the political push to protect major players’ right to engage in derivatives trading was recently reestablished. An amendment to the Continuing Resolution / Omnibus budget bill passed before Congress adjourned for the 2014 Christmas recess, eliminated the Dodd-Frank prohibition on OTC trading by too-big-too-fail institutions. Reports quickly surfaced – even before President Obama signed it into law on 16 December – that the language of this repeal had been written by the legal team at Citibank (Chait 2014). The property rights status of these contracts appear to be, once again, on the rise.

## V. INTELLECTUAL PROPERTY: THE COMMODIFICATION OF KNOWLEDGE

As with uncertainty, knowledge has followed an uneven trend toward ever-greater commodification through the increasing ascription of property right claims. Each stage in the legal deepening, or ‘proptertization’, of knowledge commodification has been preceded by an objective economic or technical change. Part V.A describes the legal origin and shifting interpretation of patents and copyright up to the early 20th century in order to show that their roots lie in the prospect of national advancement rather than in the economizing behavior of individuals. Part V.B discusses the extension of copyright and patent law up to their rhetorical dovetailing into so-called intellectual property rights (IPR). The final section briefly considers post-TRIPS extensions of copyright and patent rules, while also pointing to some recent Supreme Court cases that have begun to limit the scope of valid patent subject matter.

### V.A) *Common Origin, Divergent Laws*

The US Constitution contains an early conferment of rights to inventors and artists. It instructs Congress to:



promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.  
(US Const. Art 1, Sec. 14)

These Constitutional rights are not defined as rights in property. Neither would the first copyright statute (1790) nor patent statute (1791) include explicit reference to property rights. As in England (see Khan, 2001; Machlup & Penrose, 1950), early American IP was viewed as a temporary grant of protection from competition – a monopoly. Property as a rhetorical device would not emerge until the late 19th century, and did not become a legal commonplace until the 1970s (Fisher, 1999, note 105).

Despite their common clause origin in the US Constitution, patents and copyrights have long been considered as separate legal categories (Khan & Sokoloff, 2001, p. 236). This legal distinction enabled the US government to pursue a differentiated strategy that maximized its opportunities for national advancement. Whereas the United States was exemplary in granting broad privileges to inventors, it provided comparatively little protection to copyright holders. Fisher (1999, p. 2), for example, relates Harriet Beecher Stowe’s failure to obtain an injunction against an unauthorized German translation of *Uncle Tom’s Cabin*. The Supreme Court reasoned that copyright protects ‘copies’ and not derivations extending beyond identical reproduction. Moreover, whereas foreigners could obtain patent protection in the United States, it was not until 1890 (a century after the first copyright statute!) that foreigners could secure copyrights for their works (Khan, 2001, p. 22-3, 40). As a net importer of literary works from England, the United States gained enormously by forgoing the royalties that would otherwise have been paid to Austen, Dickens and the like. By the end of the century, American literature and fine art had developed enough that there would be little to no aggregate loss in offering copyrights to foreign authors and artists.<sup>41</sup> And so, with a change in the basis for national enrichment,

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<sup>41</sup>As further evidence of the national development goals in these two fields of law note that France followed the opposite path of the United States. France prohibited counterfeiting of foreign works in 1852 but continued to offer patents to importers of foreign inventions until the 1880 Paris Convention. Furthermore, up to 1844 a French patent would be annulled if the holder attempted to obtain a patent in another country (see Khan, 2001, p. 16, 30 and 40).

followed a change in copyright law.

The United States' 19th-century patent structure proved much more successful than the cumbersome institutions of the Old World (Khan & Sokoloff, 2001). The desire to incentivize and protect innovators led to the early prohibitions on working requirements and compulsory licensing that were common throughout Europe and Canada well into the latter half of the 20th century (see Weissman, 1996). In spite of this evident right to gain from one's own invention, the conferment of a *property claim* was not established until 1921 when the New York State Supreme Court ruled that “[a]ny civil right not unlawful in itself nor against public policy, that has *acquired pecuniary value* becomes a property right that is entitled to protection as such” (Fisher v Star Co. 1921, emphasis added). This legal determination of value *as* property was, appropriately, a major target of ridicule in Felix Cohen's (1935) derision of legal formalism as ‘transcendental nonsense’. Although legal realists like Cohen did have some affect on legal analysis, the deepening propertization of knowledge hastened through the 20th century.

#### *V.B) 20th Century Homogenization: Knowledge as Property*

Despite the New York Court's ruling in *Fisher*, juridical language continued to speak of copyright and patents as specialized grants of protection. Fisher (1999, p. 15) argues the gradual rhetorical shift from ‘monopolies’ to ‘property’ began in the mid-19th century and was, by the close of the 20th, “well-nigh complete.” Yet patent and copyright law did not dovetail into intellectual private property until the 1980s, when the pharmaceutical lobby popularized the property discourse in support of its push for global IP protection. From the 1940s through the 1970s, US courts viewed patents as monopolies and judiciously limited their scope through antitrust law (Dorn, 2007, citing Sell 2003). By contrast, the rapid evolution of media and communication technologies during the 20th century led to a complex myriad of copyright expansions. It would not be until the inclusion of Trade-Related Aspects of Intellectual Property Rights (TRIPS) in the establishment of the WTO that patents and copyright would be homogenized as the prime example of intangible private

property.

From 1909 until 1976, American copyright law was created expanded and in the courts. During these 67 years, copyright common law became “riddled with analytically indefensible distinctions, impractical definitions, and wholesale distortion of statutory language” (Litman, 1987, p. 858). In addition to changing technology, the convoluted jurisprudence reflected the inherent complexity of copyright doctrine,<sup>42</sup> as well as the many conflicting interests it involved. Congress’s solution to the complexity was effectively to outsource lawmaking. Jessica Litman (1987) provides an extraordinary account of the fraught negotiations between *inter alia* producers, composers, cable providers, literary and educational unions, who together drafted the 1976 Copyright Act. Fisher (1999, p. 15), understandably, disparages this antidemocratic process:

[T]he negotiations privileged groups with interests sufficiently strong and concentrated to have formal representatives. Very rarely was the public – the consumers of [IP] – represented in any way. And Congress itself – whose job, one might think, is precisely to protect the public’s interest – failed to do so.

It is hard to disagree that the privilege conferred to negotiating parties runs counter to the principle of government for, by and of the people. Yet, the negotiating privilege of these parties accords with democratic norms if one considers intellectual outputs as private property. Indeed the one-on-one deal struck between jukebox makers and composers that was enshrined in the 1976 Act (Litman, 1987, p. 873-4)<sup>43</sup> is precisely the kind of bargaining solution to externalities envisioned by Coase (1960). Although the Act did not confer property status to copyright, Congress’s legislative outsourcing was premised on the validity of private-party negotiations – a stepping-stone on the way to full propertization of knowledge.

Lamentations over the 1976 Copyright Act seem quaint in comparison the draft-

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<sup>42</sup>The courts had to establish interpretations and rules regarding a wide array of copyright provisions such as artistic work-for-hire, what constitutes derivative works, and how and when reversion of a copyright claim to the original author occurs (see Litman, 1987, p. 865-6 and note 56).

<sup>43</sup>Regarding the royalties paid for the *economic* benefit (or loss to the composer) of playing music in *private* establishments. Ultimately they agreed to a flat annual royalty of \$8 per jukebox.

ing of the Trade-Related Aspects of Intellectual Property Rights (TRIPS). TRIPS exported an expanded version of US-style patent protection to nearly every country in the world (Jaszi, 1996). Beyond representing a net benefit to the US, which led and leads the world in patent and artistic exports (e.g., Hollywood films), the TRIPS legislation was all but written by the Intellectual Property Committee (IPC),<sup>44</sup> whose membership included the Pharmaceutical Research and Manufactures Association (PHRMA)<sup>45</sup> and other multinational corporations. The IPC even boasted of its own success in “developing the official U.S. proposal on intellectual property that the U.S. government tabled before the GATT TRIPS working groups in October 1987” (cited in Weissman, 1996, p. 1084). Strong pressure from the Reagan and Bush administrations at the WTO negotiations led to little substantial alteration from this original proposal. Although it was outside the norms of democratic lawmaking, the 1976 Copyright Act was at least the result of negotiation between conflicting parties and overseen by the federal government.<sup>46</sup> TRIPS, by contrast, was written for and by a small group of powerful corporate players.

PHRMA’s push for the strongest patent protections possible was underwritten by a publicity campaign that put ‘property rights’ and ‘piracy’ at the heart of its rhetoric (Weissman, 1996). Burgess (1987) quotes Reagan’s US Trade Representative, Clayton Yeutter, saying that at the end of the Ford Administration “hardly anyone in Washington had ever heard of the notion of intellectual property”, yet by 1985 it had become “one of the hottest buzzwords in town.” This rhetorical success was surely aided by America’s romantized inventor as well as the Constitutionally enshrined sanctity of ‘life, liberty *and property*’. Furthermore, the flexing of US economic muscle helped secure a global prohibition against working requirements

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<sup>44</sup>A lobbying group overlapping with PHRMA, but also including IBM, DuPont, GM, Merck and Pfizer, among others (Weissman, 1990, p. 8).

<sup>45</sup>Prior to 1991 it was known as the Pharmaceutical Manufacturers Association (PMA). Weissman (1996, p. 1075-6) ascribes the name change to the desire to kick out producers of generic pharmacological products.

<sup>46</sup>Litman (1987) shows that the US Patent Office played a decisive role in initiating proposals and mediating negotiations. Moreover, when the text of the bill came before Congress, members justified their support of it on the grounds of a long, but fair, process of consensus building. The drafting of TRIPS could in no way be justified on such grounds.

and mandatory licensing, as well as the internationalization of the phrase ‘intellectual property rights’. All this was finalized and enacted even as Clinton’s Council of Economic Advisers and the Office of Science and Technology Policy opposed the inclusion of TRIPS in the WTO agreement Stiglitz (2008, p. 1649). It appears that fully commodified knowledge – explicitly as property – had arrived in the founding of the WTO.

#### *V.C) Recent Developments and Limits to Full Fictive Commodification*

In both law and common parlance, TRIPS marks the most extensive fictive commodification of knowledge to date. Yet, the process of commodification through property remains incomplete. Despite the utopian, pre-law conceptions of IPR among a few neoclassical economists (e.g. Spulber, 2014), the small-scale counter-movement against knowledge commodification has apparently found its bulwarks in IP’s duration and scope. Intellectual property is not fully commodified because it lacks, what Honoré (1961, p. 374) calls, ‘the incident of absence of term’. That is, the Constitution offers authors and inventors monopoly rights “for limited Times”. For example, the 1998 ‘Sonny Bono Copyright Term Extension Act’ (CTEA) gave a blanket elongation to all US copyrights to the author’s life plus 70 years. In *amici curiae* submitted to the Supreme Court, top legal scholars argued that the bill’s 20-year extension of copyright violates the ‘limited Times’ provision of the Constitution’s Patent and Copyright Clause (Brief of Intellectual Property Law Professors as *Amici Curiae* Supporting Petitioners, 2002, p. 15). Thus, a tension between the continuing extension of IP duration and ‘the incident of absence of term’ is likely to be a primary focus of further commodification.

Legal efforts against the expanded scope – rather than duration – have met with more success recently. Indeed, the one silver-lining is that the scope of patentable subjects has finally reached a limited in recent Supreme Court cases. In 2013 it ruled that non-synthetic genes and sub-strands of DNA could not be patented even though they could not exist independently of the host (i.e., humans) without advanced technology (FT 2013). Similarly, in 2012 the Court found that diagnostic blood test

procedures (FT 2012) were not patent-eligible because the process of observing different parts of the blood constituted natural phenomena.

These bulwarks are, of course, not without their Law and Economics critics (see e.g. Daily & Kieff, 2013).<sup>47</sup> Indeed, in spite the legal scholars' reasoned arguments, the Supreme Court ruled 7-2 that the CTEA is constitutional without any concern for diminutions to the public domain.<sup>48</sup> Moreover, in 2011 Congress passed the American Invents Act (AIA) which reverses the 200-year presumption of the 'first-and-true' inventor's right to patent by protecting the rights of whomever is the first to file. The legal battle over what constitutes the valid propertization of knowledge is sure to continue through the next round of technological advancement. Hopefully, more informed theories can help guide future debates.

## VI. CONCLUSION

The transition from early to advanced capitalism has been a disruptive and uneven process. Through the 19th and 20th centuries, market economies expanded in scale, space and scope. The theoretical and historical analysis presented here focuses on the process of intangibles' commodification as an aspect of the market's expanding scope. Section II.B argued that Marxian commodification, insofar as it relies on the labor theory of value, cannot account for the internationalization and valuation of intangible commodities. We then argued in II.C that neoclassical theory failed to account for intangible commodities because it too presupposes economic value as extralegal. Specifically, the New Institutional rationalization that property rights emerge as agents' bargaining solution to externality problems was shown to conflate property and value into a single amorphous concept. Since value is objectively defined by agents' optimization criteria, so too are the claims, powers and limitations of their

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<sup>47</sup>They argue for removing all restrictions to the question of patentable subject matter and "return to an approach that is closer to the 'anything under the sun made by man'."

<sup>48</sup>In responding to Justice Breyer's dissent the Court argues that public and private "ends are not mutually exclusive; copyright law serves public ends by providing individuals with an incentive to pursue private ones" (Eric Eldred v Ashcroft, 2003, p.22, note 18) While reasonable on its own, this provides no judicial review, as indeed the Court rule, to limit finite copyright extensions.

property rights. The law and norms are but a convenient shorthand for the nexus of rights generated by utility-seeking peoples.

Section III proposed a new framework to account for various types of commodities by stretching Polanyi's distinction of fictive and real commodities of poles along a continuum defined by degrees of creators' for-market intentionality. Finally Sections IV and V developed this socio-legal framework by tracing the commodification of uncertainty and knowledge in the United States. In these historical accounts we argued that the increasing ascription of property right claims to intangibles is the defining aspect of the commodification process. The degree of intangibles' commodification is, therefore, determined by the degree of 'proPERTIZATION'. The extent of legally and socially recognized property right claims, in turn, leads to further rhetorical support for intangibles as inherent property. Our analysis demonstrates that profit-seeking and the development of institutional norms are both essential to the creation of economic value through property rights.

## REFERENCES

- Alchian, A. A. (2008). Property Rights. In *The Concise Encyclopedia of Economics*. Retrieved from <http://www.econlib.org/library/Enc/PropertyRights.html>
- Alchian, A. A. & Demsetz, H. (1972, December). Production, information costs, and economic organization. *American Economic Review*, 62(5), 777–795.
- Alchian, A. A. & Demsetz, H. (1973, March). The property right paradigm. *The Journal of Economic History*, 33(1), 16–27.
- Azmanova, A. (2010). Capitalism reorganized: social justice after neo-liberalism. *Constellations: An International Journal of Critical and Democratic Theory*, 17(3), 390–406.
- Azmanova, A. (2014). The 'crisis of capitalism' and the state - more powerful, less responsible, invariably legitimate. In N. Lemay-Hébert, N. Onuf, V. Rakić, & P. Bojanić (Eds.), *Semantics of statebuilding: language, meanings and sovereignty* (Chap. 10, pp. 150–162). Routledge.

- Bolton, P. & Dewatripont, M. (2005). *Contract Theory*. Cambridge, MA: The MIT Press.
- Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste* (R. Nice, Trans.). Cambridge, MA: Harvard University Press.
- Burgess, J. (1987, December 6). Fighting tresspassing on ‘intellectual property’; U.S. tries to prevent overseas copying of everything from music to microchips. *The Washington Post*.
- Carruthers, B. G. (2013). Diverging derivatives: law, governance and modern financial markets. *Journal of Comparative Economics*, 41, 386–400.
- Coase, R. H. (1960, October). The problem of social cost. *Journal of Law and Economics*, 3, 1–44.
- Coase, R. H. (1988). *The Firm, The Market and the Law*. Chicago, IL: University of Chicago Press.
- Cohen, F. (1935, June). Transcendental nonsense and the functional approach. *Columbia Law Review*, XXXV(6), 809–849.
- Court of Appeals of New York. (1921, July 14). *Fisher v Star Co*. 231 NY 414. Retrieved from [http://www.courts.state.ny.us/reporter/archives/fisher\\_star.htm](http://www.courts.state.ny.us/reporter/archives/fisher_star.htm)
- Daily, J. E. & Kieff, F. S. (2013). Anything under the sun made by humans: patent law doctrines as endogenous institutions for commercializing innovation. *Emory Law Journal*, 62, 967–981.
- Demsetz, H. (1967, May). Toward a theory of property rights. *The American Economic Review*, 57(2), 347–359.
- Demsetz, H. (2002, June). Toward a theory of property rights II: The competition between private and collective ownership. *The Journal of Legal Studies*, XXXI, S653–S672.
- Dorn, M. (2007, January 19). A brief history of intellectual property. Retrieved from <http://weblog.mattdorn.com/content/a-brief-history-of-intellectual-property/>
- Epstein, R. A. (2010). The disintegration of intellectual property? a classical liberal response to a premature obituary. *Stanford Law Review*, 62(2), 455–524.



- Fisher, W. W. (1999). Geistiges eigentum – ein ausufernder rechtsbereich: die geschichte des ideenschutzes in den vereinigten staaten [a history of ownership of ideas in the united states]. In Vandenhoeck & Ruprecht (Eds.), *Eigentumskulturen im vergleich* (pp. 265–91). Retrieved from <http://cyber.law.harvard.edu/people/tfisher/iphistory.pdf>
- Getzler, J. (1996). Theories of property and economic development. *Journal of Interdisciplinary History*, 26(4), 639–669.
- Granovetter, M. (1985, November). Economic action and social structure: the problem of embeddedness. *American Journal of Sociology*, 91(3), 481–510.
- Gray, T. C. (1980). The disintegration of property. In J. Pennock & J. W. Chapman (Eds.), *NOMOS XXII: Yearbook of the American Society for Political and Legal Philosophy*.
- Hahnel, R. & Sheeran, K. A. (2009, March). Misinterpreting the Coase Theorem. *Journal of Economic Issues*, XLIII(1).
- Hale, R. L. (1922, March). Rate Making and the Revision of the Property Concept. *Columbia Law Review*, 22(3), 209–216.
- Hall, P. A. & Soskice, D. (2001). *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*. Oxford, UK: Oxford University Press.
- Halpin, A. (2007). Disproving The Coase Theorem? *Economics and Philosophy*, 23, 321–341.
- Heller, M. (2001). *The Economy of Property Forms*. Gruter Institute.
- Hohfeld, W. N. (1917). Fundamental legal concepts as applied in judicial reasoning. *Yale Law Journal*, 26, 710–770.
- Honoré, A. M. (1961). Ownership. In A. G. Guest (Ed.), *Oxford Essays in Jurisprudence*. Oxford: Oxford University Press.
- Hurwicz, L. (1995). What is the Coase Theorem? *Japan and the World Economy*, (7), 49–74.
- Jaszi, P. A. (1996). Goodbye to All That – A Reluctant (and Perhaps Premature) Adieu to a Constitutionally-Grounded Discourse of Public Interest in Copyright Law. *Vanderbilt Journal of Transational Law*, 29, 595.

- Keynes, J. M. (1937, February). The General Theory of Employment. *Quarterly Journal of Economics*, 51(2), 209–223.
- Keynes, J. M. (1964[1936]). *The General Theory of Employment, Interest, and Money*. New York, NY: Harcourt, Inc.
- Khan, B. Z. (2001). *Intellectual Property and Economic Development: Lessons from American and European History*. Commission on Intellectual Property Rights.
- Khan, B. Z. & Sokoloff, K. L. (2001, Summer). History Lessons: The Early Development of Intellectual Property Institutions in the United States. *Journal of Economic Perspectives*, 15(3), 233–246.
- Litman, J. D. (1987). Copyright, compromise and legislative history. *Cornell Law Review*, 72, 857–904.
- Machlup, F. & Penrose, E. (1950, May). The patent controversy in the nineteenth century. *The Journal of Economic History*, 10(1), 1–29.
- MacKenzie, D. & Millo, Y. (2003, July). Constructing a market, performing theory: the historical sociology of a financial derivatives exchange. *American Journal of Sociology*, 109(1), 107–145.
- Marx, K. (1990[1867]). *Capital Volume I: A Critique of Political Economy* (B. Fowkes, Trans.). New York, NY: Penguin Books.
- Mas-Colell, A., Whinston, M. D., & Green, J. R. (1995). *Microeconomic Theory*. New York, NY: Oxford University Press.
- Maucourant, J. & Plociniczak, S. (2013). The Institution, the Economy and the Market: Karl Polanyi’s Institutional Thought for Economists. *Review of Political Economy*, 25(3), 512–531.
- McCloskey, D. (1998, Summer). Other Things Equal: The So-Called Coase Theorem. *Eastern Economic Journal*, 24(3).
- Moore, B. J. (1988). *Horizontalists and Verticalists: The macroeconomics of credit money*. New York, NY: Cambridge University Press.
- Polanyi, K. (1957). The economy as an instituted process: Economies in history and theory. In K. Polanyi, C. M. Arensberg, & H. W. Pearson (Eds.), *Trade and market in the early empires* (Chap. XIII, pp. 243–269). Glencoe, IL: The Free Press.

- Polanyi, K. (2001[1944]). *The Great Transformation: The political and economic origins of our time*. Boston, MA: Beacon Press.
- Radin, M. J. (1982, May). Property and Personhood. *Stanford Law Review*, 34, 957–1015.
- Radin, M. J. (2011). Property *Longa, Vita Brevis*. *Wisconsin Law Review*, 111, 112–121.
- Ricardo, D. (2004[1817]). *The Works and Correspondences of David Ricardo, Volume One: On the principles of political economy and taxation*.
- Schwartz, A. & Scott, R. E. (2003, December). Contract theory and the limits of contract theory. *The Yale Law Review*, 113(3), 541–619.
- Smith, A. (1994[1776]). *An Inquiry into the Nature and Causes of The Wealth of Nations* (E. Cannan, Ed.). New York, NY: The Modern Library.
- Spulber, D. F. (2014, June). *How patents provide for the foundation of the market for innovation*. Retrieved from [http://www.law.northwestern.edu/research-faculty/searlecenter/events/roundtable/documents/Spulber\\_Patents\\_and\\_the\\_Market\\_for\\_Inventions.pdf](http://www.law.northwestern.edu/research-faculty/searlecenter/events/roundtable/documents/Spulber_Patents_and_the_Market_for_Inventions.pdf)
- Stiglitz, J. (2008). Economic foundations of intellectual property rights. *Duke Law Journal*, 57, 1693–1724.
- Stillman, P. G. (1980). Property, Freedom, and Individuality in Hegel’s and Marx’s Political Thought. In J. Pennock & J. W. Chapman (Eds.), *NOMOS XXII: Yearbook of the American Society for Political and Legal Philosophy: Yearbook of the American Society for Political and Legal Philosophy: Yearbook of the American Society for Political and Legal Philosophy*.
- Stout, L. (2008). Derivatives and the legal origin of the 2008 credit crisis. *Harvard Business Law Review*, 1, 1–38.
- Supreme Court of the United States. (2003). *Eric Eldred v Aschroft*. 01-618.
- Volpe, P. (2002). Digging Clinton’s Ditch. Retrieved from <http://xroads.virginia.edu/~ma02/volpe/canal/impact.html>
- Weber, M. (1992[1930]). *The Protestant Ethic and the Spirit of Capitalism* (T. Parsons, Trans.). New York, NY: Routledge.

- Weinberg. (2002). *Brief of intellectual property law professors as Amici Curiae supporting petitioners*. 01-618.
- Weiser, P. J. & Hatfield, D. (2008). Spectrum policy reform and the next frontier of property rights. *George Mason Law Review*, 15(3), 549–609.
- Weissman, R. (1990). Patent plunder: TRIPping the third world. *Multinational Monitor*, 11(11). Retrieved from <http://www.multinationalmonitor.org/hyper/issues/1990/11/weissman.html>
- Weissman, R. (1996). Long, Strange Trips: The Pharmaceutical Industry Drive to Harmonize Global Intellectual Property Rules, and the Remaining WTO Legal Alternatives Available to Third World Countries. *University of Pennsylvania Journal of International Economic Law*, 17, 1069–1125.
- Zajac, E. J. & Westphal, J. D. (2004, June). The social construction of market value: institutionalization and learning perspectives on stock market reactions. *American Sociological Review*, 69(3), 433–457.