17 Financialization and the Forestry Sector

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CONTENTS

17.1 INTRODUCTION

As seen throughout this book, the forestry sector at the global level and in many countries is currently influenced by several trends that affect all spheres of human activities. Urbanization, tertiarization, and globalization of societies and economies manifest themselves through multiple processes.

Over the recent decades, starting in the 1970s, three broad trends of transformations of capitalism have been identified (Epstein 2005): (1) neoliberalism, i.e., the decreasing influence of governments and public actors and the corresponding rise of influence of markets and private actors in economies and societies; (2) globalization, i.e., the increase in speed, reach, and amounts of flows of commodities, information, people, norms, and money across the World; and (3) financialization, which has been defined in various ways but relates to the increasing prominence and influence of finance and finance activities in capitalist economies.

Many works have focused on the trends and effects of neoliberalism and globalization in its trade component on the forestry sector. These three dimensions are strongly interdependent (Epstein 2005) and influence the forestry sector in conjunction. Although a few recent works have highlighted the importance of financial markets in understanding and governing changes in social–ecological systems (Galaz et al. 2015), the specific dynamics of financialization have received little attention in forestry and more broadly in agriculture and other land use sectors, as well as in the human–environmental change or social–ecological systems literature, compared to neoliberalization and globalization. This chapter presents an overview and discusses

the effects of financialization in the forestry sector. This chapter starts by a general background on what financialization means and how it has been unfolding over the recent decades in the general organization of capitalist economies, distinguishing three major dimensions of financialization. Then, this chapter discusses the dynamics and specificities of financialization in the forestry sector, as well as more broadly in the land-based commodity sectors including agriculture, where this process has been stronger and studied more. This chapter then shows that these three dimensions of financialization occur in forestry, through three main processes: (1) its effects on commodity markets and in particular on prices and prices volatility; (2) its relation with changes in land ownership and the related effects; and (3) changes in behaviors of forestry companies, with an increasing emphasis on financial activities, including through carbon forestry.

17.2 FINANCIALIZATION: TRANSFORMATIONS OF FINANCE AND THEIR ROLE IN CAPITALISM

In the loosest sense, financialization refers to "the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies" (Epstein 2005). "Financial" here refers to "activities relating to the provision (or transfer) of liquid capital in expectation of future interests, dividends, or capital gains" (Krippner 2005). A more analytical approach identifies several definitions, which correspond to a set of distinct although strongly interrelated dimensions of the phenomenon, i.e., financialization as a mode of capital accumulation, a change in the value orientation of corporations, and a growth and complexification of financial activities (Krippner 2005; Dore 2008; van der Zwan 2014).

First, financialization is defined as "a pattern of accumulation in which profits accrue primarily through financial channels rather than through trade and commodity production" (Krippner 2005).

In this process, the financial industry has increased its share of GDP in advanced economies, but in addition, nonfinancial corporations have also increasingly derived profits from financial activities rather than from productive investment (van den Zwan 2014). Financialization has been argued to result in slower aggregate economic growth, by leading to shorter planning horizons, a declining allegiance of stakeholders to long-term corporate goals, and a large increase in the percentage of cash flow paid to financial market agents (Crotty 2003). Three forms of responses to the latter process from nonfinancial corporations were cutting wages and benefits to workers, engaging in fraud and deception to increase apparent profits, and moving into financial operations to increase profits (Epstein 2005).

Second, financialization corresponds to the rise of "shareholder value" as a mode of corporate governance. This refers to the increasingly strong assertion of the property rights of owners and the monetary returns to these shareholders as transcending all other forms of social accountability for business corporations (Froud et al. 2000; van den Zwan 2014). This trend has been supported by governments promoting the idea of an "equity culture," i.e., a society where every citizen would hold shares in market activities, for different internal and geopolitical motives (Dore 2008). This has also been called the "financialization of the everyday" (van den Zwan 2014).

Several legislative changes toward deregulation in the 1970s and 1980s, particularly in the United States, also encouraged public investment funds, such as pension funds, to diversify their investments away from their traditional reliance on low risk, fixed-income securities such as government and corporate bonds to more risky investments such as stocks (Gunnoe and Gellert 2011; Gunnoe 2014). This shift bears important consequences on power and control of economic decisions in modern corporations (Krippner 2005). In the early twentieth century, managers increasingly held power within corporations because of the rise of stockownership, which detached stakeholders from the daily engagement with business operations. Over the recent decades, through financialization, finance and nonfinance activities are increasingly tied in joint operations, and as discussed earlier, finance activities are increasingly important sources of profits for nonfinancial firms. With the rise of the "shareholder value" model, the autonomy of managers has strongly reduced. Managers find themselves under close supervision of a board that represents and exclusively promotes the interests of shareholders. Various considerations that may have represented important factors in the decision-making of managers, such as social responsibility, service to customers, responsibility toward employees, personal reputation, and ethic, or the sense of contributing to the development of a region, city, country, or an economic sector, now have to be considered only in terms of their potential effects on shareholder value (Dore 2008; Khurana 2010). Shareholders are typically expecting a steadily rising, rather than a stable, return on their equity. Note that this change in managers' roles does not operate through plain coercion, but through a change in the culture of the managers; rise in salaries' inequalities; as well as carefully designed systems of carrots and sticks of stock options, bonus systems; and the overhanging threat of instant dismissal.

Third, the growth and increasing complexity in financial trading through multiple new financial instruments and intermediating activities between savers and the users of capital in the real economy. These activities very largely take a speculative character (Dore 2008). A great variety of instruments has been developed to support the broader trend of financialization, such as commodity index funds (Irwin and Sanders 2011), trading houses (Gibbon 2014), and derivatives markets (Galaz et al. 2015). This increasing complexity of financial products make it increasingly complicated to trace the decision-making responsibilities and to govern supply chains by providing the appropriate incentive to the appropriate actor.

Empirical evidence of the different dimensions of financialization is provided, discussed, and reviewed in Krippner (2005), Epstein (2005), Dore (2008), and van der Zwan (2014), among others. These different processes result in a set of consequences, which are also sometimes used as indicators or definitions of financialization, such as the emergence and increasing political and economic power of a particular social class of "rentier," i.e., a "functionless investor" (van der Zwan 2014), and the growing dominance of capital market financial systems over bank-based financial systems (Krippner 2005). Financialization has been sometimes considered as the major force sustaining liberalization and globalization, and the scientific literature has widely discussed many of its consequences, including on inequality in the distribution of income and wealth, through lessening the dependence of nonfinancial firms on productive activities and thus on labor force, and on the social

welfare policies (e.g., Dore 2008). Financialization has profound effects on management, including because the time horizon of finance actors can be extremely rapid, as massive amounts of almost real-time information makes it possible to reevaluate investment decisions continuously to obtain the optimal return (see Chapter 14). Financialization also supports an increasing global interconnection and fluidity of capital markets.

17.3 FINANCIALIZATION IN THE FORESTRY AND AGRICULTURAL COMMODITY SECTORS

Following this general introduction of financialization, this section analyzes in more details how financialization has been occurring in the land-based commodity sectors, i.e., agriculture and forestry, and what have been its major impacts. Although the book focuses on forestry, this section also reaches out to other commodity markets where the financialization process has been stronger.

This section focuses on three main manifestations of financialization: (1) its effects on commodity markets and in particular on prices and prices volatility; (2) its relation with changes in land ownership and the related effects; and (3) changes in behaviors of forestry companies, with an increasing emphasis on financial activities, including through carbon forestry.

17.3.1 Financialization in Commodity Markets and Effects on Price, Including Volatility

Financialization in commodity markets takes several forms, among which one of the most important is the establishment of commodity futures markets. A futures contract is an instrument through which traders buy (take a long position) or sell (take a short position) a volume of a specified commodity for a decided price, in a certain period in the future (Mehrotra and Carter 2017). Unlike forward contracts, futures contracts are marketable, allowing futures market participants to exit a contract before maturity by taking an offsetting position. Commodity futures markets have been rapidly developing over the recent decades (Galaz et al. 2015). Futures market trading is generally considered to impact commodity prices through several economic mechanisms (Cheng and Xiong 2014): (1) the decision to store that commodity instead of consuming it, with such delay depending on the difference between the current value and the expected future value; (2) the distribution of the risks among producers, consumers, and intermediaries in the supply chain; and (3) the aggregation of dispersed information held by market participants around the world about global supply and demand of commodities. Through the latter effect, prices of timber futures markets can serve as a forecast of the future spot price (Mehrotra and Carter 2017). Financialization has been shown to contribute to the rise in comovement between prices of the major commodities that have futures contracts, including a set of agricultural products such as corn, soybean, wheat, rice, coffee, sugar, cocoa, cattle, and pork meat, as well as timber and a set of mineral commodities such as oil, natural gas, gold, silver, and copper (Tang and Xiong 2010; Pradhananga 2016).

Timber futures market remain rather inefficient compared to other commodities, i.e., the information on changes in supply and demand is not readily incorporated into prices changes (Kristoufek and Vosvrda 2014).

Futures markets affect the economic context into which timber producers operate. Indeed, housing starts announcements have been shown to affect timber prices, but the effects of a housing starts shock is buffered for longer-term futures contracts compared to short-term contracts (Karali and Thurman 2009). Commodities prices are typically more volatile than for manufactured products, but historically, sawn wood is among the commodities with the lowest price volatility (Ecorys 2012). The volatility of timber prices has notably increased since the 1990s (Ecorys 2012). Although it remains undemonstrated that this increased volatility is directly linked to the cointegration of timber with other commodities markets, this would be consistent with the cointegration trend given the higher volatility of these other commodities prices compared to timber. The volatility of timber prices, by creating uncertainty, impacts the ability of foresters to plan for their harvests in an economically sound way (Rinaldi and Jonsson 2013). Another aspect linked to volatility is the speed at which investments decisions are made, such as through algorithmic trade (Galaz et al. 2015). The effects of this speed are still unclear, but they may conflict with the very long-term horizon at which forestry management decisions have to be made.

17.3.2 Changes in Ownership in US Timberlands

Financialization also manifests itself through changes in forestland ownership. This process has been mainly studied in the United States, where institutional and financial investors, mainly organized through timber investment management organizations (TIMOs) and Real Estate Investment Trusts have become large landowners and active players in the timber markets (Healey et al. 2005; Newell and Eves 2009; Bliss et al. 2010). Increases in concentrated stock ownership among institutional investors and the use of incentive-based compensation have been indeed considered as manifestations of the adoption of shareholder value strategies in the US forest products sector (Gunnoe 2016). The value of US timberland properties owned by institutional investors increased from $1.5 billion in 1990 to over $30 billion in 2009 (Newell and Eves 2009) and corresponds to more than half of the nation's private industrial timberland (Gunnoe and Gellert 2011). "Institutional landownership" encompasses the ownership and control of land by a broad array of financial actors, including pension funds, endowments, sovereign wealth funds, hedge funds, and private equity firms, operating through various organizational structures from real estate investment trusts to newly created land management entities such as TIMOs (Gunnoe 2014). These financial investors are often referred to as "passive" investors, in the sense that they do not actively engage in the forestland management (Zinkhan and Cubbage 2003).

Healey et al. (2005) explain this interest of institutional investors by a set of characteristics of timber investments, i.e., primarily its historical low price volatility and its low correlation with prices of other financial assets. For a similar expected return, timberland is shown to reduce the volatility of a financial portfolio (Zinkhan and Cubbage 2003). Beyond these fundamentals, the rise of financial funds dedicated to

forestry in the 1980s helped institutional investors to get hold on timberland in the United States (Zinkhan and Cubbage 2003). Within a general context of financialization, including the deregulation of investments rules, institutional investors such as pension funds, banks, mutual funds, and insurance companies began to invest in real estate (Gunnoe and Gellert 2011). Meanwhile, in a context of deindustrialization and perceived undervaluation of timberlands in the stock market, timber companies were looking for investors willing to acquire their timberlands.

This transformation of timberland ownership in the United States was influenced by and at the same time reinforcing a reshaping of managerial strategies, toward an increasing prominence of the pursuit of "shareholder value" (Gunnoe and Gellert 2011; Gunnoe 2016). Selling timberland was indeed seen, by timber companies, as one way to create value for shareholders under this new managerial mode (Gunnoe 2016). The rising prominence of the shareholder value model had profound impacts on forestry as an activity and on forest landscapes. Institutional investments focus on a time horizon of typically 10–15 years, which is very short in forestry. The goal is not to produce timber but to maximize the market value of any investment. In search of the highest return, institutional investors are ready to convert pieces of timberland to other uses, thereby inducing fragmentation of forests. Being absentee landowners, institutional investors can hardly interact with local communities and care little about the impacts of their investments and management style on these communities (Gunnoe and Gellert 2011). On the other hand, many of these investors recognized the services values of the forest in addition to timber that they intend to cash on in the future as these services become internalize in markets.

17.3.3 Changes in Behaviors of Forestry Companies

As reflected in the selling of timberland by timber companies in order to maximize shareholder value, financialization modified the behavior and decisions of forestry companies. One aspect of financialization is the increase in the share of profit that enterprises derive from financial activities rather than productive activities. Carbon forestry corresponds to one way through which forestry companies can derive profit through a financial activity (Knox-Hayes 2013; Sullivan 2013). Carbon forestry is itself one manifestation of the broader "carbon economy" that is made of a set of interconnected compliance and voluntary carbon markets (Boyd et al. 2011). Carbon forestry includes several types of activities through which forestry can generate income through its relation with carbon storage and sequestration. These activities include reforestation that can generate credits such as under the clean development mechanism or voluntary carbon offset markets (Reeson et al. 2015) as well as public and private donors funding for forest conservation channeled through the international reducing emissions from deforestation and forest degradation scheme (Chow 2015). Discussing in depth the details and architecture of carbon forestry is way beyond the scope of this chapter, but it can be noted that this participates to the broader dynamic of financialization, and it has been shown to modify the management style of forestry companies. Carbon is a particularly uncertain commodity, as both its supply and demand are strongly influenced by public policies (Reeson et al. 2015). Carbon forestry is thus increasing the level of uncertainties that land

BOX 17.1 INVESTMENTS OF GREEN RESOURCES IN UGANDA

Green Resources is a Norwegian-owned forestry company active in multiple countries. A set of papers examined the activities of this company in activities in Uganda, where the company holds licenses for timber production as well as the sale of carbon credit (Lyons and Westoby 2014; Richards and Lyons 2016). These studies showed that financial flows channeled through private forestry companies such as Green Resources were a major way through which the government and public institutions were expecting to achieve forest conservation and reforestation in the country. Beyond environmental goals, international investments were seen as a major factor in development such as through the building of infrastructures and the payment of taxes. In essence, the national development agenda was thus embedded within the financialization of the forest sector. Yet investments by private companies in land have also been described as "neoliberal enclosure of land for plantation forestry" and a form of "state enabled land grab." The displacement and loss of access to key resources negatively affected the livelihoods of local communities.

managers have to face. Financialization through carbon forestry has contributed to a surge in land investments in tropical, developing countries, contributing to what has been called "new corporate enclosures" inducing dispossession, marginalization, and impoverishment of local communities in forest areas (see Box 17.1).

Mainly driven by the "shareholder value" model, these forestry activities are hardly concerned by the fate of local communities. Yet, under certain conditions, private investments in forestry can indeed create benefits for local communities, but these conditions remain insufficiently clear (Zoomers and Otsuki 2017). Carbon forestry, when taking the form of intensive plantations with rapid growth, also creates environmental trade-offs in terms of potential soil degradation, water and pesticide uses, and habitat for biodiversity. However, in some contexts, carbon pricing, and the internalization of forest services externalities could favor continuous cover forestry and adoption of more sustainable forestry practices instead of intensive plantations.

17.4 CONCLUSION

We have started by identifying three main dimensions of financialization as a general process of transformation in the world economy, particularly in high-income countries. These main dimensions are (1) a change in the pattern of accumulation toward an increasing share of profits derived from financial activities, (2) a change of value of corporations toward an increasing prominence of "shareholder value" as the benchmark against which any firm activity has to be evaluated, and (3) an increasing complexity in financial trading through multiple new financial instruments and intermediating activities.

We have then shown that these three trends are manifested in the forestry sector, e.g., through (1) a shift in accumulation pattern toward an increasing share

of profit derived from financial activities such as selling timberland to institutional investors and engaging in carbon forestry, (2) the rise of the "shareholder value" model in forestry management in both developed and developing countries, and (3) the increasing weight of commodity futures markets in the forestry sector, directly both through the development of timber futures markets and through the increasing integration between timber futures markets and other commodities futures markets.

These trends may pose significant risks for the resilience of the forestry sector, as demonstrated by several examples where large investors or banks have failed to consider large-scale ecological risks of their managerial approaches (Galaz et al. 2015). Yet the rising influence of financial actors also opens opportunities to influence forestry companies to improve the sustainability of their practices. The probable increased demand for forest services, which could enter financial markets, could encourage forestry operators to manage forests for these services in addition to timber in order to maximize revenues. Financialization could help speed this transition. By raising awareness of financial actors on the sustainability risks of their investments, it may be possible to leverage their influence on forestry operators, although "green" finance currently remains a tiny niche market within the finance sector (Scholtens 2017). But the increasing complexity of financial products make it increasingly complicated to trace the decision-making responsibilities. The appropriate governance of financialized supply chains requires tools to trace the different actors involved in the supply and value chains of a given commodity, in order to trace these to the social and environmental impacts at the production place, and thereby providing the appropriate incentives to the appropriate actors (Godar et al. 2016; Gardner et al. under revision). This chapter is only a short exploration of the trends and effects of financialization in the forestry sector, which should be followed up by more in depth studies.

REFERENCES

Bliss, J. C., Kelly, E. C., Abrams, J., Bailey, C., and J. Dyer. 2010. Disintegration of the US industrial forest estate: Dynamics, trajectories, and questions. *Small-Scale Forestry* 9(1):53–66.

Boyd, E., Boykoff, M., and P. Newell. 2011. The "new" carbon economy: What's new? *Antipode* 43(3):601–611.

Cheng, I. H. and W. Xiong. 2014. Financialization of commodity markets. *Annual Review of Financial Economics* 6(1):419–441.

Chow, J. 2015. Forests as Capital: Financial Mechanisms for Tropical Forest Conservation. *Journal of Sustainable Forestry* 34:517–533.

Crotty, J. 2003. The neoliberal paradox: The impact of destructive product market competition and impatient finance on nonfinancial corporations in the neoliberal era. *Review of Radical Political Economics* 35(3):271–279.

Dore, R. 2008. Financialization of the global economy. *Industrial and Corporate Change* 17(6):1097–1112.

Ecorys. 2012. *Mapping Resource Prices: The Past and the Future: Summary Report—Final Report*. Rotterdam: European Commission–DG Environment.

Epstein, G. A. 2005. *Financialization and the World Economy.* Cheltenham: Edward Elgar Publishing.

Froud, J., Haslam, C., Johal, S., and K. Williams. 2000. Shareholder value and financialization: Consultancy promises, management moves. *Economy and Society* 29(1):80–110.
Galaz, V., Gars, J., Moberg, F., Nykvist, B., and C. Repinski. 2015. Why ecologists should care about financial markets. *Trends in Ecology and Evolution* 30(10):571–580.
Gardner, T. A., Benzie, M., Börner, J., Dawkins, E., Fick, S., Garrett, R. et al. 2018. Transparency and sustainability in global commodity supply chains. *World Development*, in press, https://doi.org/10.1016/j.worlddev.2018.05.025.
Gibbon, P. 2014. *Trading Houses during and since the Great Commodity Boom: Financialization, Productivization or . . .?* DIIS Working Paper. Copenhagen: Danish Institute for International Studies.
Godar, J., Suavet, C., Gardner, T. A., Dawkins, E., and P. Meyfroidt. 2016. Balancing detail and scale in assessing transparency to improve the governance of agricultural commodity supply chains. *Environmental Research Letters* 11(3):035015.
Gunnoe, A. 2014. The political economy of institutional landownership: Neorentier society and the financialization of land. *Rural Sociology* 79(4):478–504.
Gunnoe, A. 2016. The financialization of the US forest products industry: Socio-economic relations, shareholder value, and the restructuring of an industry. *Social Forces* 94(3):1075–1101.
Gunnoe, A. and P. K. Gellert. 2011. Financialization, shareholder value, and the transformation of timberland ownership in the US. *Critical Sociology* 37(3):265–284.
Healey, T., Corriero, T., and R. Rozenov. 2005. Timber as an institutional investment. *Journal of Alternative Investments* 8(3):60–74.
Irwin, S. H. and D. R. Sanders. 2011. Index funds, financialization, and commodity futures markets. *Applied Economic Perspectives and Policy* 33(1):1–31.
Karali, B. and W. N. Thurman. 2009. Announcement effects and the theory of storage: An empirical study of lumber futures. *Agricultural Economics* 40(4):421–436.
Khurana, R. 2010. *From Higher Aims to Hired Hands: The Social Transformation of American Business Schools and the Unfulfilled Promise of Management as a Profession*. Princeton, NJ: Princeton University Press.
Knox-Hayes, J. 2013. The spatial and temporal dynamics of value in financialization: Analysis of the infrastructure of carbon markets. *Geoforum* 50:117–128.
Krippner, G. R. 2005. The financialization of the American economy. *Socio-economic Review* 3(2):173–208.
Kristoufek, L. and M. Vosvrda. 2014. Commodity futures and market efficiency. *Energy Economics* 42:50–57.
Lyons, K. and P. Westoby. 2014. Carbon colonialism and the new land grab: Plantation forestry in Uganda and its livelihood impacts. *Journal of Rural Studies* 36:13–21.
Mehrotra, S. N. and D. R. Carter. 2017. Forecasting performance of lumber futures prices. *Economics Research International* 2017:165036.
Newell, G. and C. Eves. 2009. The role of US timberland in real estate portfolios. *Journal of Real Estate Portfolio Management* 15(1):95–106.
Pradhananga, M. 2016. Financialization and the rise in co-movement of commodity prices. *International Review of Applied Economics* 30(5):547–566.
Reeson, A., Rudd, L., and Z. Zhu. 2015. Management flexibility, price uncertainty and the adoption of carbon forestry. *Land Use Policy* 46:267–272.
Richards, C. and K. Lyons. 2016. The new corporate enclosures: Plantation forestry, carbon markets and the limits of financialised solutions to the climate crisis. *Land Use Policy* 56:209–216.
Rinaldi, F. and R. Jonsson. 2013. Risks, information and short-run timber supply. *Forests* 4(4):1158–1170.
Scholtens, B. 2017. Why finance should care about ecology. *Trends in Ecology and Evolution* 32(7):500–505.

Sullivan, S. 2013. Banking nature? The spectacular financialisation of environmental conservation. *Antipode* 45(1):198–217.

Tang, K. and W. Xiong. 2010. *Index Investment and Financialization of Commodities*. NBER Working Paper w16385. Cambridge, MA: National Bureau of Economic Research.

Van der Zwan, N. 2014. Making sense of financialization. *Socio-Economic Review* 12(1): 99–129.

Zinkhan, F. C. and F. W. Cubbage. 2003. Financial analysis of timber investments. In *Forests in a Market Economy*, eds. Sills, E. O. and K. L. Abt, 77–95. Dordrecht: Springer.

Zoomers, E. A., and K. Otsuki. 2017. Addressing the impacts of large-scale land investments: Re-engaging with livelihood research. *Geoforum* 83:164–171.