INTRODUCTION


2. GRAIN, “Seized”; Economist, “When Others Are Grabbing”; Zoomers, “Globalisation and the Foreignisation of Space.” Throughout this book, I refer to a “farmland boom” or “global land rush,” rather than using the language of a “global land grab.” My reasons for this choice are three. First, I am looking at one small aspect of this much broader phenomenon—private, for-profit investment in farmland, with or without associated agricultural production. Second, the term “land grab” implies illegality. But such land acquisitions are often perfectly legal, either because host governments choose to make them so or because the investors are able to hire very good lawyers. In fact, this legality is often the crux of the problem. Finally, interviewing people with a wide range of stances on this topic, I attempted to use the same terminology when I spoke to everyone, rather than changing my language between talking to activists and investors. From an ethical standpoint, I simply do not feel comfortable referring to the vast majority of my research participants as “land grabbers” behind their backs.

3. Some land deals were of very questionable legality, such as when a US-based investment company was reported to have purchased 800,000 ha in South Sudan from the son of a tribal warlord (McConnell, “Secret Sale of Southern Sudan”).

4. Burgis, “Great Land Rush.” The Ethiopian government later revoked much of the Karuturi land concession, citing lack of progress in implementation, but in 2018 the company announced that it had resolved its disputes with the government and would continue the project on a smaller plot of 25,000 ha (Fikade, “Karuturi to Start Afresh”).


10. Allan, “Virtual Water.”


12. Wily, “‘Law Is to Blame.””
17. A 2010 survey of fifty-four farmland investment professionals asked respondents what they thought was driving end investor interest in farmland and agricultural infrastructure. Inflation hedging was the primary reason given, followed closely by farmland’s low correlation to other asset classes. The “fundamentals” of rising agricultural prices due to food insecurity was a distant third (Highquest Partners, “Private Financial Sector Investment,” 18).
18. For more on the relationship between urbanization, land speculation, and dispossession see Zoomers et al., “Rush for Land”; Levien, Dispossession without Development.
19. Epstein, “Introduction,” 3. The value of “financialization” as a concept is up for debate. Brett Christophers (“Limits to Financialization”) convincingly argues that—much like fellow terms “globalization” and “neoliberalization”—it is overused and limited in its analytical capacity. In relation to agricultural investment particularly, Stefan Ouma argues that financialization is a “historically blurry catch–all concept,” making the case for its replacement with Sandro Mezzadra and Brett Neilson’s (“Operations of Capital”) more nuanced notion of “operations of capital” (Ouma, “Financialization to Operations of Capital,” 83; see also Ouma, “Situating Global Finance,” and Ouma, “Getting in between M and M’”). In using an overarching concept such as financialization, one must be careful not to become desensitized to the highly contextual ways in which finance reshapes different sectors in different places and at different times. I use the concept here, nonetheless, because I find it useful for drawing connections between developments in the world of agricultural investing and global-level political economic shifts of recent decades (Fairbairn, “Reinventing the Wheel?”).
20. Neoliberalism is an ideological and policy movement that advocates reducing the role of government in the economy. There is something of a chicken-and-egg question regarding its relationship to financialization. For Duménil and Lévy (“Costs and Benefits of Neoliberalism,” 17), “neoliberalism is the ideological expression of the reasserted power of finance.” In other words, the consolidation and growing dominance of the financial class came first, followed by the neoliberal and globalizing policies that benefited their interests. For Kotz (“Financialization and Neoliberalism,” 1), the opposite is true: “The immediate cause of the financialization process of recent decades is found in neoliberal restructuring, rather than financialization explaining the rise of neoliberalism.” It is also important to note that the regulatory changes associated with financialization may not have been as ideologically coherent as they later appeared. Krippner (Capitalizing on Crisis) argues that financialization was the inadvertent product of a series of ad hoc government attempts to avoid crisis, not a concerted neoliberal policy drive.
27. “Security” is another word for tradable financial assets such as stocks and bonds.
30. Krippner, *Capitalizing on Crisis*, 4. This understanding of financialization follows Arrighi (*Long Twentieth Century*) as well as Magdoff and Sweezy (*Stagnation and the Financial Explosion*).
34. Clapp, *Food*; Clapp and Helleiner, “Troubled Futures?” The word “commodity” is used in two different ways. First, political economists frequently use it to refer to any good that was created for sale (see Polanyi, *Great Transformation*, 75). Likewise, they use the word “commodification” to refer to the process of turning into a commodity something that may not originally have been intended for sale. Second, in finance, the word “commodity” has a more particular meaning, referring to a class of commonly traded, minimally processed goods that are subject to uniform standards and measures, making them highly substitutable and leading to the emergence of a single global price. These traded commodities include metals (e.g., gold, copper, tin), energy commodities (e.g., crude oil, natural gas, ethanol), livestock and meat (e.g., feeder cattle, pork bellies), and other agricultural commodities (e.g., soybeans, coffee).
35. Masters, “Testimony”; Masters and White, “Accidental Hunt Brothers”; Wahl, “Food Speculation”; Wray, “Commodities Market Bubble.” Others reject this explanation, attributing the price rise to a simple case of not enough supply and too much demand (Bobenrieth and Wright, “Food Price Crisis”; Irwin and Sanders, “Index Funds”).
36. Burch and Lawrence, “Towards a Third Food Regime”; Avis, “Private Equity Money and Grocery Retailers.”
39. Even agriculture-sector corporations seemed eager, until recently, to distance themselves from actual agricultural production. In the 1990s scholarly observers noted a growing trend toward contract farming models, in which the corporation controls upstream and downstream activities while small farmers are left bearing the economic and natural risks of raising the livestock or growing the crops (Watts, “Life under Contract”).
40. Commentators sometimes distinguish between the “real economy” and the “financial economy.” In reality, however, the two are not fully separable (Magdoff and Sweezy, *Stagnation and the Financial Explosion*, 94). Financial innovation always builds on the “bread-and-butter of income flows from real assets” (Leyshon and Thrift, “Capitalization of Almost Everything”), which are rooted in material substance and geographic place (Pike and Pollard, “Economic Geographies of Financialization”).
42. Polanyi, *Great Transformation*, 76. See Christophers, “For Real,” for a critique of the notion of “fictitious commodities.” See note 34 above for different meanings of the word “commodity.”
43. Polanyi, Great Transformation, 60, 79.
44. Espeland, “Value-Matters,” 1843–44; Shipton, Mortgaging the Ancestors.
47. Ouma, “From Financialization to Operations of Capital,” 82.

The first draft of this manuscript was completed in 2014 when the literature on finance-sector investment in farmland was still very limited. I was influenced primarily by Andrew Gunnoe’s pathbreaking work on the financialization of timberland in the US (Gunnoe and Gellert, “Financialization”) and by an early version of what would become Tania Li’s article “What Is Land?”. However, in the four years it took me to transform that earlier work into a manuscript worthy of submission (an embarrassingly slow pace, which I can only excuse by pointing to the two babies I produced in the same period), many excellent articles were published making arguments similar to my own. In particular, the work of André Magnan and colleagues on farmland investment in Canada, Sarah Sippel and colleagues in Australia, Oane Visser and colleagues in Ukraine and Russia, Antoine Ducastel and Ward Anseeuw in South Africa, as well as Stefan Ouma’s overviews of the sector, are all empirically rich and theoretically insightful. I cite these related publications throughout and strongly encourage reading them in addition to (or instead of) this book.

49. HighQuest Partners, “Private Financial Sector Investment,” 1; Wheaton and Kiernan, “Farmland,” 5. HighQuest Partners asked market participants to estimate the size of the farmland and agricultural-infrastructure asset class. Wheaton and Kiernan’s analysis was based on the authors’ estimates of farmland owned by institutional investors specifically. There is some continuity between these two studies, however, in that the Wheaton and Kiernan article was coauthored by a HighQuest Partners researcher.

51. Jacobius, “More Investors Turn to Farmland”; Nuveen, “By the Numbers.”

53. Aside from having a lot of capital at their disposal, there is also reason to believe that investors may behave differently from other farmland market participants. In their research on farmland investment in Saskatchewan, Magnan and Sunley (“Farmland Investment and Financialization”) found that investors paid more for farmland, on average, than other market participants, and that some bought and resold large tracts of land within short spans of time, suggesting that they were “flipping” it for speculative profit.


55. A recent study of investment returns for sixteen advanced economies from 1870 to 2015 found that investment in residential real estate has historically been a better way to generate income from wealth even than investment in the stock market—producing similar rates of return but with less volatility (Jordà et al., “Rate of Return on Everything”).


57. Abolafia, Making Markets; Ho, Liquidated; Zaloom, Out of the Pits.
58. My approach drew inspiration from “multi-sited ethnography” (Marcus, “Ethnography in/of the World System”) and from “global commodity chain analysis” (Gereffi, “Buyer-Driven Global Commodity Chains”; Bair, “Global Capitalism and Commodity Chains”). However, rather than ethnography, I used a combination of other qualitative research methods: in-depth interviews, participant observation, and document analysis. And because farmland does not circulate like other commodities and therefore cannot be traced through the stages of production and trade, I instead interviewed the network of actors involved in facilitating farmland purchases, as well as the regulators and activists attempting to restrict them.

59. Brenner and Theodore’s concept of “actually existing neoliberalism” is a useful reference point for thinking about how global processes are instantiated in particular national contexts (Brenner and Theodore, “Cities and the Geographies”).

60. Most interviews were recorded, with participant consent, to later be transcribed and coded for key themes; if participants were uncomfortable with being recorded, I took detailed notes instead.

61. The reality is more complicated than these simple categories. Some companies, for instance, fall into more than one category at once. Such is the case with TIAA, the pension fund discussed above, which began by investing its own capital into farmland but then branched out into creating farmland funds for third-party investors, making it simultaneously an investor and an asset manager. To make matters more semantically complicated, most institutional investors are actually asset managers from the start. For instance, a pension fund is a type of institutional investor, but the real end investors are the myriad schoolteachers, firemen, and bus drivers, whose retirement savings the pension fund is charged with managing. To keep things simple, I will refer to these entities only as “investors.” It is also important to note that the connections between the actors I interviewed were not linear. Though there were instances in which I talked to people in different countries about the same investment project, my goal was to understand the farmland investment sector as a whole, not to trace individual land deals from start to finish.


63. Because most of my interviews took place in the US and Brazil, the majority of interview participants had at least some investments in North or South America. However, many had investments on more than one continent. Interviewees included seven individuals involved in farmland investment in Eastern Europe and the former Soviet Union, five in Africa, and five in Australia. I also spent two months researching farmland investment in Mozambique during 2010, which, though not discussed directly in this book, contributed to my overall understanding of the land rush (see Fairbairn, “Indirect Dispossession”). The investment conferences I attended were mostly framed as global events, but, with the exception of one I attended in the Middle East, they nonetheless primarily attracted participants from Western countries—particularly Europe, the Americas, and Australasia. It is important to remember that the cultures of finance are many, and my findings would likely have been quite different had I instead focused on, for instance, Islamic agricultural investors.

64. Magnan (“Financialization of Agri-Food”) reveals the importance of studying the financialization of agriculture within particular national contexts through a comparison of Canada and Australia. Sippel, Larder, and Lawrence (“Grounding the Financialization of Farmland”) further contextualize finance-backed investments at the local level through an examination of their reception by communities in rural Australia.

65. OECD, “Pension Funds in Figures,” 1; McGrath, “New York, the Hedge Fund Capital.”


67. The first four countries were Indonesia, Ukraine, Russia, and Papua New Guinea. The Land Matrix database contained forty-five large-scale land deals in Brazil since

68. Cardoso and Faletto, *Dependency and Development*; Evans, *Dependent Development*; Frank, *Capitalism and Underdevelopment*.

69. I let my Brazilian interview participants decide whether the interview should take place in my (flawed but sufficient) Portuguese or their (sometimes quite impressive) English. The result was that my interviews with public-sector and civil-society actors were mostly in Portuguese, whereas my interviews with private-sector actors—many of whom had advanced degrees from English-speaking countries and used English regularly to speak with investors—were mostly in English. The interviews were all transcribed in the language in which they took place, and then I translated any quotes from Portuguese-language interviews that appear in this book. I also made the difficult choice to lightly edit the grammar in quotations from English-language interviews with non-native speakers. The people I was interviewing were successful and often very articulate professionals, but sometimes I read over the transcripts and was surprised to find them riddled with grammatical errors that made the speaker sound tongue-tied or even a little buffoonish. I felt that a denaturalized transcript, though it perhaps loses something of its immediacy, was more respectful to interview participants as well as conveying a more accurate picture of my experience of these conversations. Both the participants and I were accustomed to making do with the language resources available to us, brushing past them to get to the interesting and complex topic at hand. If they switched haphazardly between past and present tenses or struggled to find the correct word at times, this was not a representation of their expertise and, I felt, would only distract from the content of what they were actually saying (for thoughts on such transcription choices see Oliver, Serovich, and Mason, “Constraints and Opportunities,” 1282).

70. I did not accept all such quid pro quos. Early on, I was offered free admission to an agricultural investment conference in exchange for the attendee lists from two competing conferences I had attended. These lists—which include the names of prospective investors—are one of the perks of conference attendance. I regretfully declined to provide the information and was not admitted to the conference.

71. Babb, “Sociologist among Economists,” 50. Babb points out that this dynamic is not universal. It certainly applies in the US and Brazil, however. I mostly went with the flow of these gendered interactions. I bought a skirt suit, wore makeup, and generally attempted to emulate the kind of professional femininity I saw performed by the (relatively few) women in investment spaces. When interviews took place over coffee or a meal, I always attempted to pay the bill but never succeeded.

72. For more thoughts on gendered interview dynamics see Arendell, “Researcher-Researched Relationship,” and Pini, “Interviewing Men.”

1. FARMLAND INVESTMENT COMES OF AGE


2. For a more complete picture of the long-standing entanglements between agriculture and finance in North America (including, particularly, the role of government in agricultural finance, which is barely discussed in this chapter) see Martin and Clapp, “Finance for Agriculture”; Ouma, “Financialization to Operations of Capital”; and Williams, “Feeding Finance.”
3. Similar processes were at work in other countries; Great Britain, for instance, also saw an increase in financial landownership beginning in the 1970s (Massey and Catalano, *Capital and Land*, 114-138).


5. For more on the relationship between financialization of land and dispossession of indigenous peoples see Sommerville and Magnan, “‘Pinstripes on the Prairies,’” and Ekers, “Financiers in the Forests.”


8. Notes on figure 1.1: Loan data do not include farm dwellings. Government category combines loans from various sources, including the Farm Credit System, the Farm Service Agency (which was previously the Farm Security Administration and then the Farmers Home Administration), and Farmer Mac. It does not include storage facility loans. Nominal prices were converted to 2016 dollars using the Consumer Price Index (CPI-U).

9. For overviews of US farmland market dynamics during the twentieth century see Henderson, Gloy, and Boehlje, “Agriculture’s Boom-Bust Cycles”; Lindert, “Long-Run Trends.” Though I focus here on the national level, land markets have distinct regional and local dynamics, meaning that land values may be booming in some areas while they are stagnant in others.


12. Notes on figure 1.2: Agricultural land values include buildings. Data from 1880 to 1910 are per decade; data from 1910 to 1916 are annual. Nominal prices converted to 2016 dollars using the Consumer Price Index (CPI-U).


16. H. T. Johnson, “Postwar Optimism”; Woodruff, *Farm Mortgage Loans*, 7–36. Woodruff describes a variety of structural factors that led the life insurance companies to make unsound farm loans during the late 1910s. One factor was that their capital under management was building up, and they needed investment outlets. Another was that there was increasing competition between private mortgage providers and the newly established Federal Land Banks, leading to a relaxation of loan criteria. Additionally, the long distances between East Coast lenders and western farmers meant that most insurance companies made loans through a system of “loan correspondents” whose salary was based on commission, leading them to emphasize loan quantity over quality. The easy credit available at that time—much of which was provided by the federal government—contributed greatly to the farmland bubble that inflated throughout the 1910s.


18. Fitzgerald, 112.


23. Flint, “Solid Gold”; Crittenden, “Farmland Lures Institutions.” Not all life insurance companies responded in the same way to the 1970s boom. In fact, some took advantage of high farmland prices to sell farms they had acquired during the foreclosures of the 1920s and 1930s (Peoples et al., Anatomy of an American Agricultural Credit Crisis, 14).


25. Hoppe, Structure and Finances, 7; Daniel, Dispossession.


27. Stam, Koenig, and Wallace, Life Insurance Company Mortgage Lending, 33; Peoples et al., Anatomy of an American Agricultural Credit Crisis, 6–29.


31. Schneider, “As More Family Farms Fail.”


33. Li (“Rendering Land Investible,” 589) similarly notes the path dependence of land booms and busts. This is among several other interesting observations on the temporality of “rendering land investible.”

34. Bleiberg, “Country Slickers.”

35. Forbes, “Land Anyone?”

36. US Congress, “Ag-Land Trust Proposal,” 185, original emphasis.

37. Phelps, “Corporate Farming Statutes.” There had been prior state legislative efforts to combat corporate farming (Harl, “Farm Corporations”), though the 1970s saw the biggest wave of restrictive laws. Nine states still have such laws in place today (National Agricultural Law Center, “Corporate Farming Laws”).


41. US Congress, 44.

42. US Congress, 45.

43. US Congress, 34.

44. Martin and Clapp ("Finance for Agriculture") point out that the state has always played an active role in mediating the relationship between agriculture and finance, though the nature of that mediation has changed over time.


46. This idea is particularly associated with Thomas Jefferson, who believed that landownership by independent, yeoman farmers was the key to American democracy, culture, and virtue. The landowning small farmer, he thought, was America’s moral core—beholden to no one, the landowning farmer could act and vote his conscience. In a letter to James Madison, Jefferson made the case for agrarian democracy: “The earth is given as a common stock for man to labor and live on . . . it is not too soon to provide by every possible means that as few as possible shall be without a little portion of land. The small landholders are the most precious part of a state” (Letter from Thomas Jefferson to James Madison, October 28, 1785). This ideal lay behind the Homestead Act of 1862 and other early government efforts at promoting widely distributed landownership.


49. US Congress, 70.
50. Clark, “Pension Fund Capitalism.”
51. Clapp and Helleiner, “Troubled Futures?”, 186. Position limits on noncommercial traders were put in place by the Commodity Exchange Act of 1936.
52. Clapp, *Food*, 140. A commodity index is similar to the famous Dow Jones Industrial Average, but rather than company stock, it measures the performance of a basket of agricultural and nonagricultural commodity derivatives. Commodity index *funds*, in turn, constitute a mixture of commodity derivatives tailored to track the performance of a particular commodity index. Investors buy into an index fund directly through a bank, allowing them to get exposure to commodity futures markets without the knowledge or hands-on participation that this would generally require.
53. This regulatory loosening was cemented by the Commodity Futures Modernization Act of 2000, which confirmed that OTC products were exempt from regulation (Clapp and Helleiner, “Troubled Futures?,” 187).
54. This entire discussion is based on the work of Jennifer Clapp (Clapp and Helleiner, “Troubled Futures?”; Clapp, *Food*; Clapp and Isakson, *Speculative Harvests*).
55. Magdoff and Sweezy, *Stagnation and the Financial Explosion*; Arrighi, *Long Twentieth Century*. See also Harvey, *Enigma of Capital*. These thinkers agree that a crisis of overaccumulation was the ultimate cause of declining corporate profits in the 1970s but disagree on the proximate cause. Arrighi and Harvey largely blame increasing international corporate competition, while Magdoff and Sweezy blame growing corporate concentration and the rise of “monopoly capital.” They also differ in how they view financialization historically. For Harvey, financialization is closely tied to the political and ideological rise of neoliberalism in the latter third of the twentieth century. Arrighi, on the other hand, sees the shift to financial channels of accumulation as a historically recurring process. He describes several historical “cycles of accumulation,” each characterized by a period of material expansion, followed by heightened competition and stagnating profits, and finally a period of financial expansion in which firms switch from commodity production and trade to financial activities. Each cycle was organized under a different global hegemon; the four cycles of accumulation he discusses were led by the Genoese city states (fifteenth to early seventeenth century), the Dutch provinces (seventeenth to late eighteenth century), Britain (the late eighteenth century to early twentieth century), and the United States (the early twentieth century to the early twenty-first century). The US-led cycle of accumulation that occurred in the twentieth century, he argues, shifted into a phase of financial expansion in the early 1970s. The US government, working to maintain its hegemony, facilitated this shift through the abandonment of gold convertibility for floating exchange rates, the adoption of tight monetary policy and high interest rates, and deregulation of the banking sector.
60. In 1980, with the farmland boom still ongoing, a new company called American Agricultural Investment Management Company (AAIMC) was founded by three former
executives at Northern Bank and Trust Company of Chicago. Like Ag-Land Trust, AAIMC’s primary purpose was to buy farmland for pension funds and then lease it to tenant farmers, but while Ag-Land Trust would have been a single fund, AAIMC proposed to set up separate accounts for each client. A pension fund would put $5–10 million under the management of AAIMC, whose managers would use this capital to create a geographically diversified portfolio of five to seven farms for the client (Orr, “Pension-Fund Farm Ventures”). The AAIMC founders hoped that their proposal was different enough that they could avoid the firestorm created by the Ag-Land Trust proposal, but they were destined for disappointment. Congressional hearings were called once again (this time under the auspices of the Senate Select Committee on Small Business), and the General Accounting Office issued a study on pension fund investment in farmland (US Congress, “Investment of Pension Funds in Farmland”; US General Accounting Office, “Pension Fund Investment in Agricultural Land”). However, the founders of AAIMC persevered, ultimately raising $16 million from two retirement fund clients. Another fund, Growth Farm Investors, was founded in 1981 but went unsubscribed after the crisis hit (HighQuest Partners and Koeninger, “History of Institutional Farmland Investment,” 2).

61. The government response was also notably different. Martin and Clapp (“Finance for Agriculture,” 550) argue that the nature of the relationship between agriculture, finance, and the state has changed over time: “Whereas the state has taken explicit measures to ensure that agriculture was supported by finance at various times, more recently states have instead ensured that financial markets were supported by agriculture.”

62. There were others as well, but these were by far the biggest. This number was winnowed down from roughly eight at the end of the 1980s: Batterymarch AgriVest, Cozad/Westchester, Equitable Agri-Business, John Hancock Life, Metropolitan Life, Morgan Stanley, Phoenix Mutual Life, and Prudential Life (Fritz, “Institutional Investment in US Farmland”; HighQuest Partners and Koeninger, “History of Institutional Farmland Investment,” 5).

63. Though Prudential’s TIMO was ultimately acquired by Hancock Timber Resources Group (Zhang, Butler, and Nagubadi, “Institutional Timberland Ownership,” 357).


66. In recent years, this core group of asset managers has been joined by others with a similar profile, such as Halderman Real Asset Management, which began offering separate accounts in US farmland to institutional investors in 2013 and was renamed US Agriculture after a 2016 merger (US Agriculture, “US Agriculture and Halderman Real Asset Management Announce Merger”).


68. Conrad, “Farmland Asset Class Evolution.”

69. Citing member confidentiality, a NCREIF representative could not tell me whether there were any particular bumps in index membership during this period. However, he agreed that it would be accurate to see this trend as indicative of industry growth as mediated through index contributor growth.

70. National Council of Real Estate Investment Fiduciaries, “Farmland Property Index.”


72. Fairbairn, “Indirect Dispossession.”

73. Several recent papers have pointed out the need to tease apart the category of “finance capital,” revealing the different motivations, approaches, and receptions of the various types of actor it contains (Knuth, “Global Finance and the Land Grab”; Ouma,


75. As Magnan (“Financialization of Agri-Food,” 8) observes, however, not all investors agree that leasing out the land is the less risky approach.


77. Payne, “Case for African Agriculture.”

78. Meyer, “Great Land Rush.”

2. FARMLAND VALUES


2. The word physiocracy derives from the Greek words phýsis (nature) and kràtos (power) (Vaggi, “Physiocrats”).


7. Malthus, Essay on the Principle of Population. Malthus was one of the few classical economic thinkers with anything good to say about landlords; for him, rent constituted a sort of bonus wealth that went to the landlord in return for judicious resource management (Heilbroner, Worldly Philosophers, 98).


9. Ricardo, chap. 2, para. 1–6. The theory of “differential rent” contained insights that would later be generalized to many other areas of economic life by the so-called marginal revolution in economics.

10. Heilbroner, Worldly Philosophers, 95; Foley, Adam’s Fallacy, 77.

11. Marx, Capital, vol. 3, pt. 6, chap. 37. There is much, much more to say about Ricardian and Marxian theories of rent. For a good overview see Ward and Aalbers, “‘Shitty Rent Business.’”


15. Massey and Catalano, Capital and Land, 67–68, 114–38. They argued that this perspective was increasingly being adopted by industrial landowners as well. See also Whatmore, “Landownershio Relations.”

16. Harvey, Limits to Capital, 347.

17. Harvey, 368. For more on the treatment of land as a financial asset in relation to earlier theories of rent see Haila, “Theory of Land Rent,” and Ward and Aalbers, “‘Shitty Rent Business.’” For more on the treatment of land as a financial asset during the current land rush see Fairbairn, “‘Like Gold with Yield’”; Gunnoe, “Political Economy of Institutional Landownership”; Knuth, “Global Finance and the Land Grab.” Gunnoe (“Political Economy of Institutional Landownership”) describes growing finance-sector interest in acquiring farmland and timberland as evidence that we are living in a “neo-rentier society.”

18. Harvey, Limits to Capital, 331, 369. Though Harvey admits that the positive functions of subjecting landownership to financial logic are “bought at the cost of permitting insane forms of land speculation” (331), he does not dwell on this point. In slightly sideling speculation, he follows Marx, who also tended to exclude it from his analysis (367).

20. The capitalization rate can be further disaggregated into its main components: the discount rate, which is basically the prevailing government interest rate adjusted upward to account for the greater risk of investing in farmland than in government bonds, and the rate at which farm income is expected to grow in coming years (Gloy et al., “Farmland Values,” 11–13). See also J. Henderson, “Will Farmland Values Keep Booming?,” 88–89 and note 4. For a really simple explanation and examples see S. Anderson, “Real Estate Valuation Strategy.”

21. Low interest rates also indirectly affect farm income by reducing the exchange rate and therefore boosting the value of national exports.

22. The first equation also illuminates how land prices can impact agricultural production processes. When land prices rise relative to farm income, the capitalization rate will be relatively lower, making an investment in farmland less attractive. This means that high farm prices either put pressure on farmers to sell their land (since they could be making a higher rate of return by investing that money elsewhere) or to take steps to increase their farm income, intensifying their production process or cutting input costs such as wages paid to workers. It is thus not only true that high farm incomes lead to higher land values, but also that higher land values feed into the “treadmill of production,” which pushes farmers to constantly try to increase their farm incomes (Guthman, “Back to the Land”).

23. It is common to distinguish between booms and bubbles, but exactly when a boom becomes a bubble is a matter of some dispute. For most economists, booms occur when asset price increases are justified by the economic fundamentals, while bubbles occur when speculative impulses take over, inflating prices beyond what is justified by the fundamentals. Kindleberger and Aliber (Manias, Panics, and Crashes, 29) recommend the far narrower bubble definition of “an upward price movement over an extended period of fifteen to forty months that then implodes.”

24. Wahl, “Food Speculation.” Economists do, however, recognize that different forms of investment have differing orientations toward risk and time. A common distinction is made between three classes of investors: hedgers, who make investments in order to reduce a risk that they already face; arbitragers, who enter into simultaneous transactions in at least two different markets in order to make a riskless profit based on price discrepancies; and speculators, who make (at least somewhat) risky investments based on anticipated future price movements either up or down (Hull, Options, Futures, and Other Derivatives, 10–15).

25. Chryst, “Land Values and Agricultural Income,” 1265; Turvey, “Hysteresis,” 183. Some economists have been forced to conclude that, at least in the short term, land prices are affected by investment fads or speculative bubbles, a perspective in line with the growing subfield of behavioral economics (Falk and Lee, “Fads versus Fundamentals”; Roche, “Fads versus Fundamentals in Farmland Prices: Comment”; Shiller, “Understanding Recent Trends”).

26. Schnitkey and Sherrick, “Income and Capitalization Rate Risk.”

27. This discussion is indebted to Jean Tirole (not a post-Keynesian economist by any means), who stated that asset bubbles are most likely to occur when three conditions are present: “Durability, scarcity, and common beliefs” (Tirole, “Asset Bubbles and Overlapping Generations,” 1521, original emphasis).


29. The opposite is also true. Using rent/value ratios as an indicator, Lindert (“Long-Run Trends,” 65, original emphasis) found “a systemic pattern in forecast errors: the further the real price of farm land is above (below) its previous longrun trend, the greater the likely overoptimism (overpessimism) about the subsequent price trend.” The rent/value ratio is a common way of determining whether farmland markets are becoming
overheated. The logic is this: since rent acts as a proxy for farm income, if land prices were based purely on farm incomes, then rent and price would march pretty much in tandem, keeping the ratio steady over time. If land starts to become overvalued, then the ratio will fall; if land becomes undervalued, the ratio will rise.

30. For an excellent account of market booms and busts, which draws on the work of Minsky, see Kindleberger and Aliber, *Manias, Panics, and Crashes*.

31. Marx, *Capital*, vol. 1, preface, para. 8; Christophers, “For Real,” 140, 145.

32. Rental income and production income are clearly not the same thing. The former is based on the latter, but there is a lag time before the rent charged adjusts to changes in commodity prices or other conditions. However, it was common among the people I interviewed to refer to both types of return as “income,” “yield,” or “cash returns.”

33. McGrath, “Majority of Public Plans.”

34. IRR is a common measure of the expected returns to be generated by a potential investment.

35. Farmland LP, Home page; Guthman, “Back to the Land.”


37. This need not necessarily be the case. Sometimes subdivision can increase property value. One Brazilian fund manager told me that his company sometimes breaks up very large farms into 1,000- to 3,000-hectare chunks in order to increase the number of potential buyers.


39. For a brilliant discussion of the concept of “highest and best use” in urban development see Blomley, “Mud for the Land.”

40. As Jens Beckert (*Imagined Futures*, 133) puts it: “Investments are motivated by imaginaries of how the future will unfold. Actors express these imaginaries in the form of narratives that show their convictions, beliefs, fears, and hopes, supported by calculative tools.”

41. Beckert, *Imagined Futures*. In a study of fund managers, Tuckett found that, faced with considerable uncertainty and imperfect information, they make decisions not by rationally weighing all information but by constructing shared narratives about likely investment outcomes. Their decisions about what to buy and sell are based less on the “fundamentals” of an investment than on the narratives they build around those fundamentals (Tuckett, “Financial Markets”). Likewise, Chong and Tuckett found that emotionally powerful “conviction narratives” are essential to overcoming uncertainty and inspiring investment. In fostering conviction about the future, investment narratives can alter the behavior of market actors, the value of commodities and companies, and, ultimately, the future (Chong and Tuckett, “Constructing Conviction”).

42. Tsing, *Friction*, 57.

43. This point is made very eloquently by Tania Li. In her article “What Is Land?,” she argues for viewing land as an assemblage of diverse elements, including such “inscription devices” as scarcity narratives and graphs of rapidly rising land prices. Oane Visser (“Running Out of Farmland?”), meanwhile, reveals that such narratives are often unsuccessful, leading to “value stagnation.”


45. For more on scarcity narratives see Hartmann, “Ghosts of Malthus”; Hildyard, “‘Scarcity’ as Political Strategy.”

46. Lappé, “Beyond the Scarcity Scare.”

47. Kolesnikova, “Grantham Says.”

49. McIntosh, “Aquila Capital.”
51. Sen, Poverty and Famines; Watts, Silent Violence.
52. Lappé, Collins, and Fowler, Food First, 22.

53. Unlike the other investment conferences mentioned in this book, I did not actually attend this particular event. However, a video of the speech is available in full online (Dotzour, “Peoples Company Land Expo Keynote”).

54. Esposito, Future of Futures, 37.

55. Esposito, 13. According to Esposito, “The more one is free to construct one’s own temporality, the more one must take the equal and yet opposite freedoms of others into account. The uncertainty of the future is multiplied by the uncertainty of the behavior of all other operators who are oriented to the same future” (Esposito, Future of Futures, 28).

56. Land Commodities, Agriculture and Farmland Investment Report, 131.


60. Austin, How to Do Things with Words, 16; Butler, “Performative Agency”; Callon, “Performativity, Misfires and Politics.”

61. An April 2019 article on the Agri Investor news site was dedicated to this issue (Janiec, “Is Ag Suffering”). Given that inflation hedging is one of the primary selling points for farmland, it reported, this absence of inflation is problematic for those raising capital for agricultural funds.


63. Fourcade, “Cents and Sensibility,” 1722; Radin, Contested Commodities, xiii, 20–21.

64. Radin, Contested Commodities, 57–59, 102–14.

65. Anthropologists describe societies in which land and self are so tightly bound by the bones of buried ancestors and the sweat of ritual ceremonies that they are not fully separable (Povinelli, Cunning of Recognition). See also Verdery, Vanishing Hectare, and Shipton, Mortgaging the Ancestors, for connections between land, ancestry, kinship, and community identity.

66. Crucially, this does not mean that they resist commodification entirely; sacred things can and often do become commercialized without necessarily losing their sacred qualities (Zelizer, “Human Values and the Market”).


69. Mazzucato, Value of Everything, 102.

70. The intertwining of farmland value and moral values is discussed extensively in several recent articles, including Kish and Fairbairn, “Investing for Profit”; Ouma, “This Can’t Be an Asset Class”; and Sippel, “Financialising Farming.” Importantly, Sippel (“Financialising Farming,” “Food Security or Commercial Business?”) points out that the moral narratives used to legitimize farmland investment differ between national contexts. In Australia, which has long embraced a neoliberal approach to agriculture, it is not financial ownership of land, but foreign (and particularly Arab and Chinese) ownership that is open to moral challenge. In this context, Australian superannuation funds actually emerge as moral saviors of Australian farmland. Chapter 4 of this book considers a similar moral and political debate taking place in Brazil.

71. Because the concept of moral economy has most often been explored in relation to peasants, one might receive the impression that moral economies exist in opposition to free-market capitalism. They often become visible only when they are violated—say, by very steep hikes in land rent or grain prices—prompting outrage, protest, or even violence.
However, as Wendy Wolford (“Agrarian Moral Economies”) has shown, powerful economic actors subscribe to their own moral economies, which may be perfectly compatible with neoliberal capitalism.

72. Hotel name altered to preserve confidentiality.
74. Larder, Sippel, and Lawrence, “Food Security Narratives,” examines how agricultural investors position themselves as food producers in the Australian context so as to both attract capital and achieve moral legitimacy.
75. Locke, Second Treatise of Government, chap. 5, section 38.
76. Charles Geisler argues that “underutilization” is a crucial “new terra nullius narrative” used to validate the present wave of enclosures in the Global South (Geisler, “New Terra Nullius Narratives”). See also Baka (“Political Construction of Wasteland”), who describes how Locke’s concept of “wasteland” has been deployed by the Indian government to justify large rural land acquisitions by the state.
78. Bonnefield, “Four Sons and a Farm.” Investors also often point to generational shifts in the farm population as a reason their services are needed—their farmland purchases, they argue, allow aging farmers to retire and to free up an inheritance for children who do not wish to farm (Sommerville and Magnan, “Pinstripes on the Prairies,” 128).
79. Heppner, “Reasons to Sell Land.”
80. Sippel, Larder, and Lawrence, “Grounding the Financialization of Farmland,” 258.
81. “When trade in land is reduced to a special branch of the circulation of interest-bearing capital, then, I shall argue, landownership has achieved its true capitalist form. . . . Once such a condition becomes general, then all landholders get caught up in a general system of circulation of interest-bearing capital and ignore its imperatives at their peril. Owner-producers, for example, are faced with a clear choice between purchasing the land or renting it from another. How that choice is exercised, under pure conditions of capitalist landownership, should make no difference” (Harvey, Limits to Capital, 347).

3. MATERIAL DIFFICULTIES

1. For more on efforts to “assetize” farmland and their (abundant) failures see Ducastel and Anseeuw, “Agriculture as an Asset Class”; Kuns, Visser, and Wastfelt, “Stock Market and the Steppe”; Li, “Rendering Land Investible”; Ouma, “Financialization to Operations of Capital” and “This Can’t Be an Asset Class”; Visser, “Running Out of Farmland?”
2. Kautsky, Agrarian Question, 12 (original emphasis).
3. Another important part of the explanation is that peasant farmers are, in certain ways, able to outcompete capitalist producers. While capitalists must turn a profit or go out of business, peasant farmers have an ability to self-exploit, which allows them to better survive the periods of exceptionally low crop prices that often wrack the farm economy. They will work themselves (and their children) to the bone, going hungry if necessary, to avoid losing their farms. Ultimately, Kautsky believed, big capitalist producers would replace smallholder family farms, but it might take a long, long time (Kautsky, Agrarian Question).
4. Most famously, Mann and Dickinson argue that the disjuncture between production time and labor time in agriculture makes farming inherently unpalatable to capitalist producers. In temperate climates, the actual work of farming, during which value is created, can occur only at particular times of the year. The rest of the time is spent waiting for the winter to pass, waiting for plants to grow, or waiting for livestock to mature. This forced inactivity reduces the rate of profit, makes it harder to hire workers, and necessitates
considerable storage infrastructure if the company is to sell grain year-round. Mann 
and Dickinson also observe that, for those crops that cannot be stored, there are all the 
additional risks and time pressures associated with perishability (Mann and Dickinson, 
“Obstacles to the Development”). Agriculture presents a barnload of other issues as well, 
however. The physical extensiveness of agriculture makes it difficult to control a hired 
workforce and limits the potential for economies of scale. “New product development” is 
constrained by the pace and possibilities of plant and animal reproduction (or at least it 
was until biotechnology came along). Finally, farming involves major risks from weather, 
pests, and disease. For more on the various barriers to the capitalist penetration of agri-
culture see FitzSimmons, “New Industrial Agriculture”; Goodman, Sorj, and Wilkinson, 
From Farming to Biotechnology; Kloppenburg, First the Seed; Lewontin and Berlan, “Tech-
nology, Research, and the Penetration of Capital”; Mann, Agrarian Capitalism.

5. Boyd, Prudham, and Schurman (“Industrial Dynamics”) argue that in all extractive 
crop insurance and derivative markets, both of which were created 
and cultivation-based industries, nature presents industrial capital with obstacles but also 
protection against the damage that can result from weather events such as drought, hail, 
of which were created to protect farmers from risk but subsequently became profitable financial realms in their 
weather, pest, and disease. For more on the various barriers to the capitalist penetration of agri-
physical extensiveness of agriculture makes it difficult to control a hired workforce and limits the potential for economies of scale. “New product development” is 
constrained by the pace and possibilities of plant and animal reproduction (or at least it 
was until biotechnology came along). Finally, farming involves major risks from weather, 
pests, and disease. For more on the various barriers to the capitalist penetration of agri-
culture see FitzSimmons, “New Industrial Agriculture”; Goodman, Sorj, and Wilkinson, 
From Farming to Biotechnology; Kloppenburg, First the Seed; Lewontin and Berlan, “Tech-
low no further than crop insurance and derivative markets, both of which were created 
to protect farmers from risk but subsequently became profitable financial realms in their 
right. Agricultural derivatives reduce the uncertainty farmers and food processors 
experience in the long months between planting and harvesting by letting them agree in 
advance on the price to be paid for the crop regardless of what might happen in the inter-
vening period (Clapp, Food; Clapp and Helleiner, “Troubled Futures?”; Cronon, Nature’s 
Metropolis). Crop insurance deals directly with weather risk by providing financial pro-
tected farmers from risk but subsequently became profitable financial realms in their 
right. Agricultural derivatives reduce the uncertainty farmers and food processors 
experience in the long months between planting and harvesting by letting them agree in 
advance on the price to be paid for the crop regardless of what might happen in the inter-
vening period (Clapp, Food; Clapp and Helleiner, “Troubled Futures?”; Cronon, Nature’s 
Metropolis). Crop insurance deals directly with weather risk by providing financial pro-
tected farmers from risk but subsequently became profitable financial realms in their 
right. Agricultural derivatives reduce the uncertainty farmers and food processors 
experience in the long months between planting and harvesting by letting them agree in 
advance on the price to be paid for the crop regardless of what might happen in the inter-
vening period (Clapp, Food; Clapp and Helleiner, “Troubled Futures?”; Cronon, Nature’s 
Metropolis). Crop insurance deals directly with weather risk by providing financial pro-
tected farmers from risk but subsequently became profitable financial realms in their 
right. Agricultural derivatives reduce the uncertainty farmers and food processors 
experience in the long months between planting and harvesting by letting them agree in 
advance on the price to be paid for the crop regardless of what might happen in the inter-
vening period (Clapp, Food; Clapp and Helleiner, “Troubled Futures?”; Cronon, Nature’s 
Metropolis). Crop insurance deals directly with weather risk by providing financial pro-
tected farmers from risk but subsequently became profitable financial realms in their 
right. Agricultural derivatives reduce the uncertainty farmers and food processors 
experience in the long months between planting and harvesting by letting them agree in 
advance on the price to be paid for the crop regardless of what might happen in the inter-
vening period (Clapp, Food; Clapp and Helleiner, “Troubled Futures?”; Cronon, Nature’s 
Metropolis). Crop insurance deals directly with weather risk by providing financial pro-
tected farmers from risk but subsequently became profitable financial realms in their 
right. Agricultural derivatives reduce the uncertainty farmers and food processors 
experience in the long months between planting and harvesting by letting them agree in 
advance on the price to be paid for the crop regardless of what might happen in the inter-
vening period (Clapp, Food; Clapp and Helleiner, “Troubled Futures?”; Cronon, Nature’s 
Metropolis). Crop insurance deals directly with weather risk by providing financial pro-
tected farmers from risk but subsequently became profitable financial realms in their 
right. Agricultural derivatives reduce the uncertainty farmers and food processors 
experience in the long months between planting and harvesting by letting them agree in 
advance on the price to be paid for the crop regardless of what might happen in the inter-
vening period (Clapp, Food; Clapp and Helleiner, “Troubled Futures?”; Cronon, Nature’s 
Metropolis). Crop insurance deals directly with weather risk by providing financial pro-
tected farmers from risk but subsequently became profitable financial realms in their 
right. Agricultural derivatives reduce the uncertainty farmers and food processors 
experience in the long months between planting and harvesting by letting them agree in 
advance on the price to be paid for the crop regardless of what might happen in the inter-
vening period (Clapp, Food; Clapp and Helleiner, “Troubled Futures?”; Cronon, Nature’s 
Metropolis). Crop insurance deals directly with weather risk by providing financial pro-
tected farmers from risk but subsequently became profitable financial realms in their 
right. Agricultural derivatives reduce the uncertainty farmers and food processors 
experience in the long months between planting and harvesting by letting them agree in 
advance on the price to be paid for the crop regardless of what might happen in the inter-
vening period (Clapp, Food; Clapp and Helleiner, “Troubled Futures?”; Cronon, Nature’s 
Metropolis). Crop insurance deals directly with weather risk by providing financial pro-
tected farmers from risk but subsequently became profitable financial realms in their 
right. Agricultural derivatives reduce the uncertainty farmers and food processors 
experience in the long months between planting and harvesting by letting them agree in 
advance on the price to be paid for the crop regardless of what might happen in the inter-
vening period (Clapp, Food; Clapp and Helleiner, “Troubled Futures?”; Cronon, Nature’s 
Metropolis). Crop insurance deals directly with weather risk by providing financial pro-
tected farmers from risk but subsequently became profitable financial realms in their 
right. Agricultural derivatives reduce the uncertainty farmers and food processors 
experience in the long months between planting and harvesting by letting them agree in 
advance on the price to be paid for the crop regardless of what might happen in the inter-
vening period (Clapp, Food; Clapp and Helleiner, “Troubled Futures?”; Cronon, Nature’s 
Metropolis). Crop insurance deals directly with weather risk by providing financial pro-
tected farmers from risk but subsequently became profitable financial realms in their 
right. Agricultural derivatives reduce the uncertainty farmers and food processors 
experience in the long months between planting and harvesting by letting them agree in 
advance on the price to be paid for the crop regardless of what might happen in the inter-
vening period (Clapp, Food; Clapp and Helleiner, “Troubled Futures?”; Cronon, Nature’s 
Metropolis). Crop insurance deals directly with weather risk by providing financial pro-
when a drought leads to high crop prices, causing farmers to respond en masse by increasing production and contributing to a period of oversupply. That “natural” phenomena like droughts are intensified by anthropogenic climate change adds a layer of interconnection. (On the social-ness of all “natural” disasters see, for example, Klinenberg, “Denaturalizing Disaster”; Bakker, “Katrina”; Braun and McCarthy, “Hurricane Katrina and Abandoned Being.”)


17. As Ouma (“Financialization to Operations of Capital,” 85) points out, MPT has yet to be applied to farmland in the highly mathematical ways that it is with other asset classes. This, he argues, has three causes: lack of historical data on farmland prices in many locations, lack of daily price data such as that available for stocks, and the fact that “many farmland investments are conducted on a case-to-case basis rather than through sophisticated portfolio structures” (Ouma, “Financialization to Operations of Capital,” note 8).


20. Gliessman and Engles, Agroecology, 203–11; Mann, Agrarian Capitalism, 64. Large growers in places like California have also long used crop diversification to reduce market risk and increase their appeal as retail suppliers (Walker, Conquest of Bread, 93).


22. Espeland and Stevens, “Commensuration as a Social Process.” Commodification depends on commensuration, on a very basic level, because it requires that disparate types of value all be translated into price. When people wish to resist commodification, meanwhile, they often do so on grounds of incommensurability; they argue that certain types of moral and cultural value cannot be captured by a cost-benefit analysis or that the thing in question is simply “priceless.” Espeland (“Value-Matters”) and Schmelzkopf (“Incommensurability”) offer detailed accounts of disputes over the commensurability of land.


24. Savills Research, “International Farmland Focus 2012.” In this publication the tool is called the Risk-Return Matrix.

25. Stark (“For a Sociology of Worth,” 5) makes this point beautifully: “I propose that we develop a concept of accounts. Etymologically rich, the term simultaneously connotes bookkeeping and narration. Both dimensions entail evaluative judgments, and each implies the other: Accountants prepare story lines according to established formulae, and in the accounting of a good storyteller we know what counts. In everyday life, we are all bookkeepers and storytellers. We keep accounts and we give accounts, and most importantly, we can be called to account for our actions.”


27. While helpful for raising investor capital, these optimistic projections may cause problems for the agricultural fund managers who use NCREIF to benchmark their own performance. At a 2015 meeting, for instance, board members of the Orange County Employees Retirement System (OCERS) demanded to know why their US farmland investments were “grossly underperforming” relative to the NCREIF index. Representatives of two different farmland investment companies were forced to explain that NCREIF was not a good benchmark for their funds, one adding that they therefore benchmark their performance to a more modest, “bespoke” benchmark they create from the NCREIF data to more closely resemble their portfolio. Investor-manager negotiation over benchmarks and its significance for farmland’s construction as a financial asset class is thoughtfully explored by Ducastel and Anseeuw (“Agriculture as an Asset Class”).
29. See Li, “Centering Labor in the Land Grab Debate” and “What Is Land?,” for an insightful and far more in-depth critique of this report.
31. Wolf and Wood, “Precision Farming.”
33. Rogers, “How Agtech Has Quietly Transformed.”
34. However, scholars have pointed out that, under the right social conditions, digital data could also facilitate agroecological production, small farmer cooperatives, and other outcomes that subvert the status quo of agricultural consolidation (Carolan, “Publicising Food”; Rotz et al., “Politics of Digital Agricultural Technologies”).
35. CiBO Technologies, “About.”
36. Tillable, “For Farmland Investors.”
37. There is a very large literature on big data and surveillance, but see, for example, Andrejevic, “Surveillance in the Digital Enclosure,” and Zuboff, “Big Other.” On the concept of “data subjects” see L. Taylor, “Data Subjects or Data Citizens?”
39. Payment of the carried interest is often made contingent on the fund surpassing a certain predetermined internal rate of return called the “preferred return” or “hurdle rate.” Once the fund has been exited, a “distribution waterfall” determines the order in which everyone gets paid, roughly as follows: first the investors (limited partners) are paid back up to this preferred return rate, then the asset manager (general partner) is paid back up to the preferred return, then any remaining profits are split, with most going to the investors and the remainder going to the asset manager in the form of carried interest.
40. For example, Swiss fund of funds Adveq bought 18,000 ha of Australian almond orchards—fully half of Australia’s almond land—through a co-investment with the Municipal Employees’ Retirement System of Michigan and Danish fund Danica Pension (Dunkley, “Investors Are Going Nuts for Nuts”).
41. Kuns, Visser, and Wastfelt (“Stock Market and the Steppe,” 204) describe assembling small landholdings as an “administrative hassle” for the large agricultural operating companies working in Russia and Ukraine.
42. For a fascinating discussion of the obstacles faced by publicly traded agricultural operating companies in Ukraine and Russia see Kuns, Visser, and Wastfelt, “Stock Market and the Steppe.”
44. Gunnoe and Gellert, “Financialization.”
45. SLC Agrícola, “December 2012 Presentation for Investors.”
46. In 2016, Cosan sold its shares in Radar to TIAA. The web page from which this quote is drawn is therefore no longer available. It was originally cited in Fairbairn, “Like Gold with Yield.”
47. Burch and Lawrence, “Financialization in Agri-food”; Christophers, “On Voodoo Economics.” Christophers, drawing on Marx and Harvey, argues that this move rests on a “mystification”; it asserts a false divide between the property and the activities that property is able to support, when in fact the two are innately entangled.
49. This is a description of an equity REIT. There are also mortgage REITs, which invest in mortgages and mortgage derivatives and disburse dividends based on these debt repayments.
50. The Bulgarian REIT equivalents, known as Special Purpose Investment Companies, were made possible with the passage of a 2003 act that exempted these entities from corporate tax provided they, like US REITs, distribute 90 percent of income to investors (Stooker, *REITs around the World*, 81). REITs were established in the US with the passage of the Real Estate Investment Trust Act of 1960 (Han and Liang, “Historical Performance”).

53. Rural Funds Group, “RFF Fund Overview” and “Assets.”
54. Cortese, “Crowdfunding Crowd.”
55. July 2013 interview with Fsquare executive.
56. AcreTrader, “How It Works.”

59. Ouma ("Getting in between M and M’") cautions strongly against overstating this point. He argues that scholars should focus on unpacking the practices and frictions that occur in between M and M', which he rightly notes are too often black-boxed in financialization scholarship.

60. This same speaker also mentioned that his fund had hired a sunspot expert to help them predict the future weather and its impact on agriculture. This expert, he said, had successfully used sunspots to predict a drought in Russia and a period of increased rain in Australia for his fund. But the sunspot expert wasn’t just a weatherman. The hedge-fund manager next told the audience that his expert had predicted a major solar flare for the coming week—and a resulting stock-market downturn, due to how the sun’s magnetic energy affects human emotions. He offered this stock-market tip in a playful spirit, but the first audience member to comment after the presentation said that his company also had a “sunspot guy,” and the two had a back-and-forth about the implications of sunspots and solar flares for market movements. This interchange was striking given the somewhat ignominious history of sunspots in economic thought. William Stanley Jevons, the British economist whose work on marginal utility theory helped launch the neoclassical transformation of economics, published an article in *Nature* in 1878 titled “Commercial Crises and Sun-Spots,” in which he attempted to explain the business cycle via solar activity. This argument was not substantiated by subsequent research and did little for Jevons’s reputation as a great economic mind. Beginning in the mid-1980s, however, sunspots have had a second career as a financial metaphor. An influential 1983 paper by David Cass and Karl Shell—making tongue-in-cheek reference to Jevons’s discredited theory—used the term as a stand-in for “extrinsic uncertainty,” or random variables that do not affect market fundamentals but may nonetheless cause shifts in investor sentiment and therefore shifts in markets. Their article—which was titled “Do Sunspots Matter?”—found that changes to investor expectations could cause price movements, even though the fundamentals of the economy stayed the same. In other words, sunspots matter if people believe that they do (Cass and Shell, “Do Sunspots Matter?”). Given that sunspots (the literal kind) have been essentially debunked as an economic variable, it is telling that anyone would still seek the advice of a sunspot consultant. It is, first, a testament to the enduring uncertainty of agriculture—no amount of diversification or hedging can take the place of favorable weather in ensuring that agriculture-based ventures are profitable. Second, the suggestion, however skeptically made, that sunspots can be used to predict market movements is a signal of the additional uncertainty introduced by finance. Though agriculture has always been subject to natural unpredictability, the increasing financialization of agriculture introduces a new source of uncertainty in the form of financial markets themselves.

61. Gustke, “Farm to Market.”
62. The stock prices of the three US farmland REITs may be particularly volatile because of their size. All three have very low market capitalizations, meaning that a sale of just a thousand shares can cause their value to fall (Gustke, “Farm to Market”).

63. Rota Fortunae, “Farmland Partners.”


65. Short selling works like this: the short seller borrows stock, sells it at its current price, and then, once the stock price has fallen, buys it back at the lower price and returns it to its owner. By selling high and then buying low, the short seller makes a profit.

66. Farmland Partners, “Farmland Partners Files Lawsuit.”

67. Ulrich Beck argues that modern society, through its technological advances and rational attempts to control the natural world, has paradoxically created new and far more insidious forms of risk; climate change, the spread of radiation after a nuclear meltdown, and the growth of antibiotic-resistant “superbugs” are just a few examples (Beck, *Risk Society*). It has likewise been argued that today’s financial crises are a product of the increasingly complex and interconnected institutions of modern finance, including the derivatives that were initially created as a means to reduce market risk (LiPuma and Lee, *Financial Derivatives*).

68. Kuns, Visser, and Wastfelt (“Stock Market and the Steppe”) found that the poor performance of publicly traded “agroholding” companies in Russia and the Ukraine stemmed in part from their managers sacrificing long-term agricultural development in an attempt to meet stock market demand for short-term profits.

4. FOREIGN POLITICS

1. In this case, because the company is publicly held, the financial institutions that sent representatives to tour the farm were likely engaged in trading or analyzing the company’s securities.


4. Imperial Law 601 (September 18, 1850).

5. Osório Silva, *Terras devolutas*. This was not entirely out of the blue. In the 1690s the Portuguese began to charge a property tax on *sesmarias*, contributing to a gradual reconceptualization of them as private-property rights carved from the public domain, rather than just usufruct rights (Lima, *Pequena história*). But it was only in 1850 that a land market was officially created. Among other things this meant that, for the first time, land could now be used as collateral on loans (Panini, *Reforma agrária*).


7. Brannstrom, “Producing Possession.”


9. Reis, “Brazil: One Hundred Years.”

10. Reis, “Brazil: One Hundred Years.”

11. Reis, “Brazil: One Hundred Years”; Skidmore, *Brazil*.


13. De Sousa and Busch, “Networks and Agricultural Development.”


23. The regime offered subsidized rural credit, which, given high rates of inflation, often carried a negative real interest rate; farmland ownership was one of the primary ways to tap into this stream of easy money, increasing its appeal and price (Delgado, *Capital financeiro e agricultura*; Rezende, “Crédito rural subsidiado”). At the same time, the government’s policy of extending infrastructure into frontier regions created opportunities for real estate speculation and increased the price of land already accumulated by elites. The military regime also offered considerable tax breaks to those who undertook cattle ranching in the Amazon region, which contributed to pastureland valorization even in the face of declining soil productivity (Hecht, “Environment, Development and Politics”). In addition to all these policy inducements to land speculation, land prices were benefited by a Brazilian stock-market crash in 1971, which sent the wealthy flocking back to land as a trusted reserve of value (Sayad, “Preço da terra”).
24. Land prices leapt in 1986 when the government of José Sarney decided to tackle inflation by replacing the existing currency, the cruzeiro, with a new unit known as the cruzado. *Plano Cruzado*, as it was called, froze all prices and wages at their current levels, leading to a considerable cooling of financial markets. In search of alternative investments, capital poured into farmland markets, causing prices to spike, though they quickly dropped again as *Plano Cruzado* was abandoned and investment in financial markets returned. Land prices also shot up in 1989 when investors became anxious about the possibility that a labor leader—future president Lula—might win the presidency. Then that same year an insider-trading scandal almost crashed the Rio de Janeiro stock market (the Nagi Nahas scandal), deepening the crisis of confidence in financial markets. Another land price spike occurred in 1992 when financial instability caused by hyperinflation was joined by political instability as President Fernando Collor de Mello resigned just hours before the Senate was set to impeach him on corruption charges (Reydon, Anânã, et al., “Ativo terra agrícola,” 187–93).
25. Wilkinson, Reydon, and Di Sabbato, “Dinâmica no mercado de terras.”
34. BrasilAgro, “Institutional Presentation.”
35. Territory refers to land’s frequent association with group identity (whether religious, ethnic, or national) and the attendant idea that the leaders of that group should exercise some kind of authority over the area in question (D. Hall, *Land*). The concept of the “nation-state,” for instance, expresses this connection between a cultural or ethnic group (the nation) and a political entity (the state) via association with a particular geographic territory (the land). Though sovereign state control over national territory has been challenged somewhat by globalization (Hudson, “Beyond the Borders”; Paasi, “Boundaries as Social Processes”), the idea of national territory and borders remains very powerful.

36. Cardoso and Faletto, *Dependency and Development*; Evans, *Dependent Development*.

37. A. Oliveira, “A questão da aquisição.”

38. Garrido Filha, *O Projeto Jari*, 87. Some of these land acquisitions enjoyed the protection of the law and were even smiled upon by the government; at the invitation of the military leader, an American billionaire named Daniel Ludwig acquired 5 million hectares—an area roughly the size of Costa Rica—in the Brazilian state of Pará for a cellulose project called Projeto Jari (Garrido Filha, *O Projeto Jari*; Sautchuk, Martins de Carvalho, and Buarque de Gusmão, *Projeto Jari*). Other acquisitions were blatantly illegal, such as the millions of hectares acquired by an American named Stanley Amos Selig through an enormous operation of *grilagem* (Lindoso, “CPI comprova irregularidades”). Among other exploits, the Velloso Report states that Selig succeeded in acquiring an entire municipality—Ponte Alta do Norte—in the state of Goiás. This municipality was 1,305,000 ha in size, but Selig oversold the land titles, with lots sold to Americans totaling 1,390,438 ha (Garrido Filha, *O Projeto Jari*, 85). It was reported in 1970 that Selig had been murdered by a defrauded American investor (*Estado de São Paulo*, “Mataram Selig”).

39. An initial attempt at regulating foreign land purchases—Supplementary Act No. 45, created in January 1969—restricted the acquisition of rural land to Brazilians and foreigners who were residents of Brazil. Law 5.709 (October 7, 1971) was regulated by Decree 74.965 (September 26, 1974).

40. The key section of the law is article 1, section 1 of Decree 74.965, which states, “Also subject to the regime established by this regulation is a Brazilian company in which participate, in any capacity, foreign persons or companies that hold the majority of its capital and reside or are headquartered abroad.” Although the restrictions initially only applied to land purchases, Law 8.629, passed in 1993, extended them to land leasing as well (Hague, Peixoto, and Filho, *Aquisição de terras por estrangeiros*, 9). Additionally, Law 6.634, passed in 1979, created a 150 km border zone in which the use of land was even more strictly controlled. In this area, foreign individuals and companies were prohibited from acquiring land, unless prior approval had been granted by the National Defense Council, then called the Council on National Security. In order to be considered Brazilian by this law, a company had to have 51 percent or greater Brazilian capital and at least two-thirds Brazilian employees (Wilkinson, Reydon, and Di Sabbato, “Dinâmica no mercado de terras”).

41. Brown and Purcell, “There’s Nothing Inherent about Scale”; Evans, *Dependent Development*.

42. Amann and Baer, “Neoliberalism and Its Consequences”; Mollo and Saad-Filho, “Neoliberal Economic Policies.”

43. Câmara dos Deputados, “Relatório da Subcomissão.” An initial, abortive attempt to repeal the law (attorney general Opinion GQ-22) argued that under the new constitution of 1988, it was no longer constitutional to discriminate against foreign-owned Brazilian companies on the basis of the source of their capital. This opinion was never
published in the Official Federal Gazette (Diário Oficial da União) and therefore did not go into effect (Hague, Peixoto, and Filho, Aquisição de terras por estrangeiros, 12–14). The 1998 attorney general opinion (Opinion GQ-181), which did go into effect, was based on Constitutional Amendment No. 6, passed in 1995, which had repealed an article of the 1988 Brazilian Constitution allowing for the privileging of “Brazilian companies of domestic capital” over non-Brazilian companies and foreign-owned Brazilian companies (Hague, Peixoto, and Vieira Filho, Aquisição de terras por estrangeiros, 15–17). The privileging of domestic enterprise had been a cornerstone of Brazil’s import substitution industrialization approach to development, and so this amendment had widespread effects, allowing foreign capital to enter such formerly protected sectors as public utilities and oil exploration (Amann and Baer, “Neoliberalism and Its Consequences”).

44. Between 2004 and 2005, Stora Enso purchased over 45,000 ha in the southern Brazilian state of Rio Grande do Sul, close to the borders with Uruguay and Argentina (Vieira, “Stora Enso obtém aval”). It easily complied with the toothless iteration of Law 5.709 then in effect by purchasing the land through a wholly owned Brazilian subsidiary, Derflin Agropecuária. This was a perfectly legal, and indeed normal, way to get around the restrictions on foreign landownership. However, because of the property location, Stora Enso found itself in violation of a second law (Law 6.634) requiring foreigners to get consent from the National Defense Council before buying land within 150 km of Brazil’s terrestrial borders. To circumvent this obstacle, Stora Enso got even more creative. It established yet another Brazilian company, Azenglever Agropecuária, this time registered in the name of two of the company’s Brazilian executives. Azenglever’s land purchases were funded by a multimillion-dollar “loan” from Stora Enso, for which the land itself served as collateral (Vaz, “Aproveitando a flexibilidade”). Though this case largely catalyzed the 2010 reregulation, there was a happy ending for Stora Enso. Ultimately, the company was able to bypass INCRA and negotiate directly with the National Defense Council, which agreed to grant a retroactive “prior authorization” for the land purchase (Lerrer and Wilkinson, “Impact of Restrictive Legislation”).

47. Stora Enso, “Shareholders and Ownership Changes.”
49. Alvim, “Investimentos estrangeiros”; Hernandez, “Estudo sobre processos”; Pretto, “Imóveis rurais.” In analyzing its own data, INCRA found that its national database contained a relatively meager 34,632 foreign-owned properties, totaling 4,037,667 ha (Pretto, “Imóveis rurais”). This land was concentrated primarily in the cerrado and was mostly registered to nationalities with a history of migration to Brazil, such as Portuguese, Japanese, and Italians (Wilkinson, Reydon, and Di Sabbato, “Dinâmica no mercado de terras”).

50. Although it was prepared in 2008, this new attorney general’s opinion (CGU/AGU Opinion No. 1/2008-RVJ) was not actually published (and therefore did not go into effect) until August 2010.
52. The effort to repeal the restrictions has been attempted under multiple bills, including Projeto de Lei (PL) 4.059/12 and, most recently, PL 2.963/19. See Zaia, “Casa Civil quer venda de terra”; Caetano, “Porteira aberta para os estrangeiros”; Zaia and Exman, “Ruralistas tentam emplacar.”
53. Valor Econômico, “MST promete invasões.”
54. The reasons given are as follows:
   a) expansion of the agricultural frontier with the advance of cultivation in environmental protection areas and conservation units;
   b) irrational land price appreciation and incidents of real estate speculation generating an increase in the cost of the expropriation process for agrarian reform, as well as a reduction in the stock of land available for this end;
   c) increase in the illegal sale of public lands;
   d) use of funds from money laundering, drug trafficking and prostitution in the acquisition of land;
   e) increase in land grabbing [grilagem];
   f) proliferation of “front men” [laranjas] in the acquisition of these lands;
   g) increase in biopiracy in the Amazon Region;
   h) enlargement, without due regulation, of the production of ethanol and biodiesel;
   i) acquisition of land in the frontier zone putting national security at risk.

55. Alston, Libecap, and Mueller, Titles, Conflict, and Land Use, 51–2. In the Brazilian Constitution, the social function of land is defined as follows:

   “Article 186. The social function is met when the rural property complies simultaneously with, according to the criteria and standards prescribed by law, the following requirements:
   1. rational and adequate use;
   2. adequate use of available natural resources and preservation of the environment;
   3. compliance with the provisions that regulate labour relations;
   4. exploitation that favours the well-being of the owners and labourers."


57. While most of the people I interviewed are identified by pseudonyms, in the case of publicly elected politicians, I asked permission to use their real names.

58. De Sartre and Taravella, “National Sovereignty vs. Sustainable Development.”

59. Wilkinson, Reydon, and Di Sabbato, “Dinâmica no mercado de terras.” This position was reiterated to me in a June 2012 interview with a CNA official. Likewise, according to an agribusiness consultant I interviewed in November 2011, Glauber Silveira, the head of the Brazilian Association of Soy Producers (Aprosoja) had initially been in favor of the restrictions until this consultant and others convinced him otherwise.

60. In the end, the ruralista-dominated subcommittee voted overwhelmingly in favor of the Montes proposal. However, the resulting bill, PL 4.059/12, has not gone anywhere (see note 52).

61. G. Oliveira, “Chinese Land Grabs in Brazil?”; Brautigan, Will Africa Feed China? Likewise, in Australia, farmland investments by Arab investors (as well as Chinese investors) have received disproportionate scrutiny and been exposed to more public backlash (Larder, Sippel, and Lawrence, “Food Security Narratives”; Sippel, “Financialising Farming”).


63. Another possible reason for the focus on Chinese investors could relate to the way that Chinese entities have gone about looking for land in Brazil. A Brazil-based farmland fund manager described them to me as “like an elephant in a crystal shop.” Similarly, an agribusiness consultant, who was the only person I met who had firsthand experience of working with Chinese investors, told me that they “make a lot of noise in the market.”
Rather than just hiring the best Brazilian consultants and trusting them to buy the land, he explained, they create a stir in their exhaustive consultation and search process. See G. Oliveira, “Chinese Land Grabs in Brazil?” for a thorough analysis.

64. Sant’Anna, “Chineses desistem.”

65. MB Agro and Agroconsult, “Impactos econômicos do parecer”; Abraf, “Relatório de impactos negativos.”

66. Agrifirma Brazil, “$82m Investment by Private Equity.”

67. Interview with SLC Agrícola executive.

68. SLC Agrícola, “December 2012 Presentation for Investors.”

69. This organizational structure was originally reported by researchers from Brazil’s Social Network for Justice and Human Rights and GRAIN (Rede Social de Justiça e Direitos Humanos, “Foreign Pension Funds and Land Grabbing”), and the story was later picked up by the New York Times (Romero, “TIAA-CREF, US Investment Giant”). For more on the role of financial capital in Brazilian farmland markets and agriculture see Mendonça and Pitta, “International Financial Capital.”

70. TIAA-CREF, Responsible Investment in Farmland, 2012; Nuveen, Responsible Investment in Farmland, 2018.

71. Holston, “Misrule of Law,” 695. Holston’s interpretation was certainly borne out in the case of Stora Enso, which despite flouting legal restrictions on foreign land acquisitions near the border, ultimately had its claim retroactively legalized.


73. Sauer and Leite, “Agrarian Structure.” Even government policies that ostensibly fortify smallholder land rights—such as the Terra Legal program of land regularization in the Amazon—may simultaneously encourage land concentration by creating a more legible landscape for agribusiness expansion (G. Oliveira, “Land Regularization in Brazil”).

74. A. Oliveira, “A questão da aquisição.”


76. Ofstehage, “Farming Is Easy.”


79. As Jennifer Clapp (“Financialization, Distance”) puts it, financialization causes “distancing” within the global agri-food system, which makes it difficult to link causes with effects.

80. Hodgson, Cullinan, and Campbell, Land Ownership and Foreigners. Additionally, even in instances with no direct regulation of foreign ownership, indirect control may be exercised through differential tax treatment or other means.

81. Hodgson, Cullinan, and Campbell, Land Ownership and Foreigners; Tan, “Restrictions on the Foreign Ownership.”

82. Morrison and Krause, State and Federal Legal Regulation. How a “foreigner” is defined is an important point in all these laws. When it comes to individual foreign investors, the criteria on which restrictions are based may be citizenship or residency (i.e., in some places, “aliens” are permitted to own land if they are permanent residents). When it comes to foreign corporations, the rules are much more complicated but are often based on incorporation outside of the US or percentage foreign ownership. The US also has federal laws in place that require reporting of foreign land acquisitions (DeBraal and Krause, “Corporate, Foreign, and Financial Investors”). Under pressure from the farm lobby, Congress passed the International Investment Survey Act (IISA) in
1976, followed by the Agricultural Foreign Investment Disclosure Act (AFIDA) in 1978 (Mason, “‘PSSST, Hey Buddy’”). Neither of these laws prohibits foreign landownership, but they do contain stringent reporting requirements. Under AFIDA, all foreign farmland holdings must be reported to the secretary of agriculture, who must provide regular reports on the extent of these holdings to the president, Congress, and the states (DeBraal and Krause, “Corporate, Foreign, and Financial Investors”). In 1980 Congress also passed the Foreign Investment in Real Property Tax Act (FIRPTA), closing a tax loophole that had allowed foreigners to buy and sell farmland without paying capital gains taxes (Mason, “‘PSSST, Hey Buddy’”).

83. GRAIN, “Land Ceilings.”

84. In the US, for instance, antiforeign and anticorporate laws have often arisen in tandem and in response to the same land booms and busts. As Wilson (“Reforming Alien Agricultural Landownership,” 713) puts it, “The two strands of agricultural law make for easy bedfellows—both ultimately based on a genuine desire to protect family farms from ‘outsiders.’”


CONCLUSION

1. Average farm size in Malawi is 2.25 ha overall, and even less for women farmers (Fisher and Kandiwa, “Can Agricultural Input Subsidies,” 103).

2. Windsor, “Corporate Social Responsibility.” This perspective was forcefully captured by Milton Friedman, who repudiated the idea of corporate social responsibility as “pure and unadulterated socialism,” asserting that “the [only] social responsibility of business is to increase its profits” (Friedman, “Friedman Doctrine,” 32–33).

3. US Congress, “Investment of Pension Funds in Farmland,” 4. This hearing was called to consider the American Agricultural Investment Management Company (AAIMC), which closely followed on the heels of Ag-Land Trust. See chapter 1, note 60.


5. Gage, “Farmland Partners Helps Stabilize.”

6. Sippel (“Financialising Farming,” 549) found that in Australia, where political and moral concerns about farmland investment center on foreign government involvement, domestic superannuation funds were seen as fulfilling a “moral imperative” to keep land in “national hands.”


8. G. Davis, Managed by Markets, 6, original emphasis.


10. Carolan, “Barriers to the Adoption.”


14. FAO et al., “Principles for Responsible Agricultural Investment.”


18. Principles for Responsible Investment, Responsible Investment in Farmland.
19. GRAIN, “Responsible Farmland Investing?” and “Socially Responsible Farmland Investment.”
20. Clapp, “Responsibility to the Rescue?,” 229–33. See also Clapp, “Financialization, Distance.”
22. Borras and Franco, 520.
23. For a discussion and critique of the CFS rai principle development process see Kay, “Political Brief.”
25. Other coalition members included Family Farm Defenders, Wisconsin Farmers Union, Organic Consumers Association, Fair World Project, Rural Coalition, Presbyterian Hunger Program-PC (USA), MaryKnoll, Grassroots International, Faculty/Staff Divestment Network, 350NYC, Union of Concerned Scientists, Fian International, Fian Sweden, Other Worlds, Sum of Us, Food and Water Watch, and Responsible Endowments Coalition.
26. Quotes come from video of the rally obtained on the FOE US Facebook page.
27. Interview with campaign organizer; Grassroots International, “Tell TIAA.”
29. J. E. Davis, Origins and Evolution; Gray, “Community Land Trusts.”
30. J. E. Davis, Origins and Evolution. Davis notes, however, a growing tendency toward “municipalization” of CLTs, in which local governments have become involved in CLTs or even initiated them.
33. High land prices and insecure tenure are among the greatest obstacles faced by community gardens, so CLT efforts to create affordable and sustainable land access are a welcome development for the urban-agriculture movement. In a 2012 survey by the National Community Land Trust Network, thirty-seven CLTs from all over the US reported encouraging some kind of rural or urban agricultural activities (Rosenberg and Yuen, “Beyond Housing”).
34. Tharpar, “Future of Farmland (Part 2)”; South of the Sound Community Farm Land Trust, “Community Farm Land Trust”; Sustainable Iowa Land Trust, “SILT.”
36. LaVecchia, “These Neighbors Got Together”; Margolin, “This Group Wants to Help Lower Rents.”
38. LaVecchia, “These Neighbors Got Together.”
39. Block, Postindustrial Possibilities.
40. Polanyi, Great Transformation.
41. See Martin and Clapp, “Finance for Agriculture.”
42. See, for example, Fairbairn, “Indirect Dispossession.”
43. GRAIN, “Land Ceilings.”
44. George, Progress and Poverty, bk. 8, chap. 2, para. 12, original emphasis.
46. Popper, “Restyled as Real Estate Trusts.”
47. Reydon et al., “Preço Elevado e o ITR.”
49. Austenå, “Agrarian Land Law in Norway”; Kajii, “Development of Structural Policy”; National Agricultural Law Center, “Corporate Farming Laws”; Schutz, “Corporate-Farming Measures”; Welsh, Carpentier, and Hubbell, “On the Effectiveness.” There is reason to believe that such policies are actually effective: Desmarais et al. ("Investor Ownership") found that investor ownership of farmland in Saskatchewan Province, Canada, increased sixteen-fold in the twelve years after a law restricting ownership to province residents was lifted in 2002.

50. Comissão Pastoral da Terra, “Campanha Nacional pelo Limite da Propriedade da Terra”; interview with campaign organizer. The limit proposed by the campaign was 35 MEI, which varies between 175 and 1,750 ha in different parts of the country.