

Institutional Timberland Ownership
in the U.S. South:
Magnitude, Location, Dynamics, and Management


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Outline

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Motivations

- Industrial timberland to Institutional timberland, managed by TIMOs, and REITs
- Reasons
 - Government tax policies disfavor C-Corp structured ownership
 - GAAP undervalue timberland owned by industrial firms
 - Rising interest in timberland as an alternative investment by institutional investors

Motivations

- Who are these TIMOs and REITs?
- How much timberland is owned by institutional investors and timberland REITs?
- Where are their timberlands located?
- What is land ownership transition matrix (dynamics)?
- Do they manage their timberlands differently from industrial or family owners?

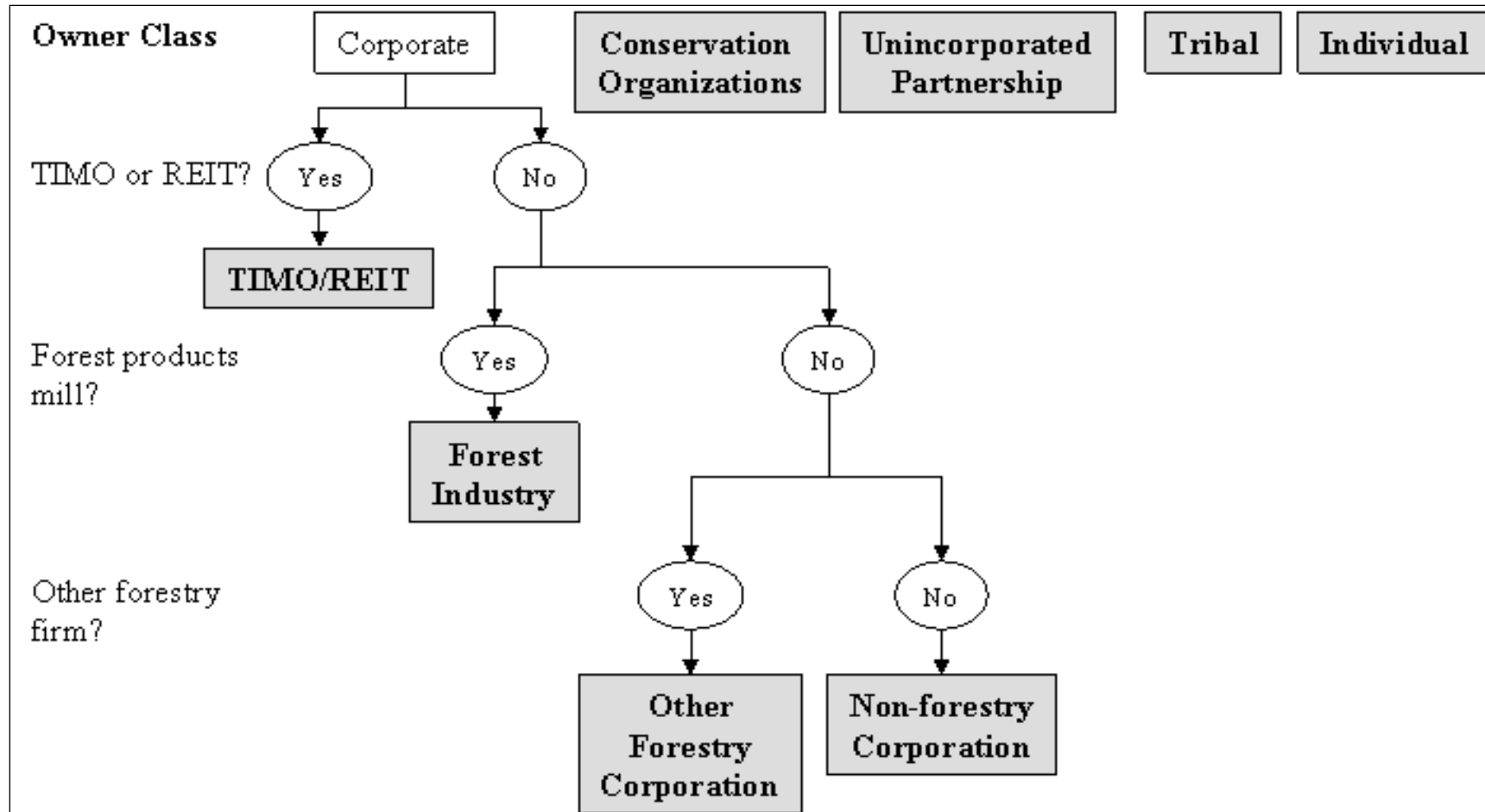
TIMOs

- Hold institutionally-owned timberland through
 - Direct, separately managed accounts
 - closed co-mingled funds that have a limited investment period of 5-20 years
 - Occasionally in the form of open funds that have an unlimited term.
- For legal and other reasons, institutional owners may be structured as a corporation, a limited partnership, or a private REIT
- Publicly-traded Timberland REITs

Method

- Corporate vs. Non-corporate ownership
- Collaborative Agreement with USFS
- Obtained a list of owners on 14,000+ measurement plots, in the South
- Classified them with a master list of TIMOs and REITs
- Sent back to USFS, who merged with management files and sent the merged file back to Auburn

Method



Results: Magnitude

| Ownership | Planted in million acres (%) | All in million acres (%) |
|--------------------|------------------------------|--------------------------|
| Public Corporation | 2.9 (7.4) | 24 (14.2) |
| --FI | 3.5 (8.9) | 6.9 (4.0) |
| --Other Forestry | 1.0 (2.5) | 2.0 (1.2) |
| --Other Corps | 6.9 (17.3) | 25.8 (15.1) |
| --TIMOs | 5.2 (13.1) | 8.8 (5.1) |
| --REITs | 5.2 (13.0) | 7.7 (4.5) |
| Individuals | 15 (37.8) | 95 (55.9) |
| Total | 40 (100) | 171 (100) |

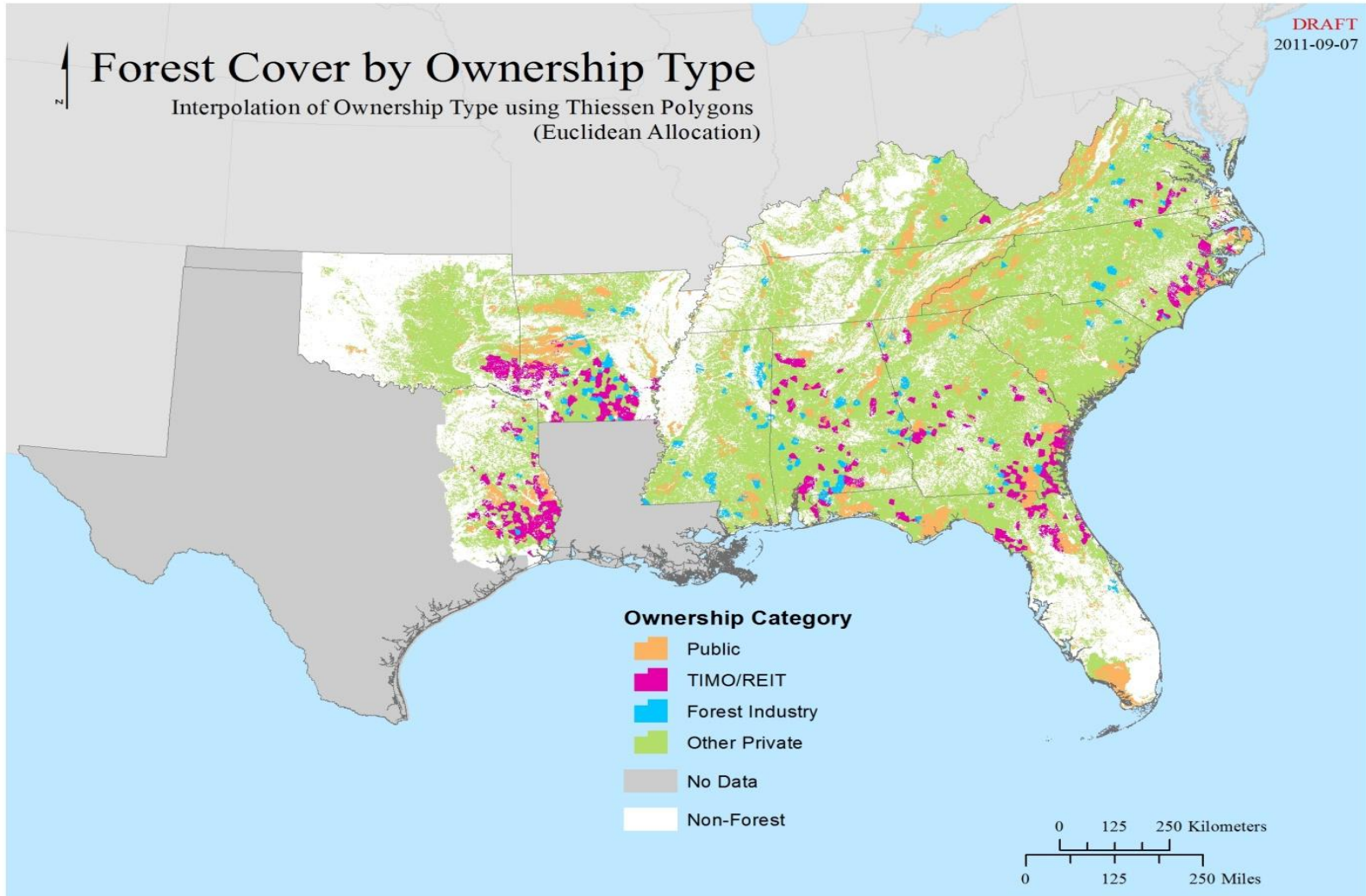
Results: Forest Type

| Ownership | Softwoods | Mixed | Hardwood | Per acre |
|------------------|-----------|--------|----------|----------|
| Public | 13,935 | 5,043 | 25,529 | 1,856 |
| Corporation | | | | |
| --FI | 5,251 | 365 | 3,712 | 1,353 |
| --Other Forestry | 1,339 | 140 | 784 | 1,131 |
| --Other Corps | 12,993 | 3,196 | 19,936 | 1,406 |
| --TIMOs | 6,717 | 685 | 3,316 | 1,224 |
| --REITs | 5,769 | 822 | 2,296 | 1,151 |
| Individuals | 37,608 | 14,418 | 87,297 | 1,475 |
| Total | 83,612 | 24,669 | 142,871 | 1,479 |

Results: Growths and Removals

| Ownership | Softwoods | | Hardwoods | | Total | |
|------------------|-----------|------|-----------|------|-------|------|
| | G | R | G | R | G | R |
| Public | 53.3 | 17.8 | 50.9 | 2.8 | 51.8 | 8.4 |
| Corporation | | | | | | |
| --FI | 133.4 | 74.4 | 35.6 | 39.4 | 97.7 | 61.7 |
| --Other Forestry | 123.8 | 75.4 | 30.4 | 4.8 | 84.4 | 45.6 |
| --Other Corps | 110.8 | 72.0 | 37.7 | 35.1 | 67.1 | 50.0 |
| --TIMOs | 129.2 | 81.7 | 34.5 | 63.0 | 100.7 | 76.1 |
| --REITs | 130.4 | 89.6 | 38.8 | 74.9 | 103.6 | 85.3 |
| Individuals | 114.1 | 44.0 | 42.0 | 30.4 | 63.3 | 34.4 |
| Average | 109.9 | 56.0 | 42.3 | 29.6 | 68.1 | 39.7 |

Results: Location



Results

Forest ownership transition matrix for the U.S. South from 1999 to 2008*

| | | Public | | | Private | | | | | Sum | |
|------|---------------|------------|------------|------------|-----------------|------------|------------|-------------|----------------------------|-------------|--------------|
| | | | | | Corporate | | | Individuals | Conservation organizations | | Non-forest |
| | | | | | Forest industry | TIMO/REIT | Other** | | | | |
| From | | Federal | State | Local | Forest industry | TIMO/REIT | Other** | Individuals | Conservation organizations | Non-forest | Sum |
| | Federal | 3.5 | 0.1 | 0.0 | 0.1 | 0.0 | 0.2 | 0.5 | 0.0 | 0.6 | 5.1 |
| | State | 0.1 | 0.7 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.4 | 1.4 |
| | Local | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.4 |
| | For. industry | 0.3 | 0.3 | 0.0 | 1.9 | 2.3 | 1.9 | 1.7 | 0.2 | 1.2 | 9.7 |
| | NIPF*** | 0.7 | 0.5 | 0.1 | 0.8 | 0.9 | 5.5 | 23.5 | 0.5 | 5.3 | 38 |
| | Non-forest | 1.0 | 0.7 | 0.2 | 0.3 | 0.3 | 1.5 | 3.7 | 0.3 | 37.4 | 45.4 |
| | Sum | 5.6 | 2.3 | 0.7 | 3.1 | 3.6 | 9.2 | 29.5 | 1.0 | 44.9 | 100.0 |

Results: Probability of reforestation within two inventory cycles

| Ownership | Estimated probability |
|---------------------------|-----------------------|
| Forest Industry | 80% |
| TIMOs and REITs | 84% |
| All other ownerships | 69% |
| Average of all ownerships | 75% |

Summary

- TIMOs and REITs manage/own 10% timberland and 26% plantations in 11 states
 - More softwood forests
 - Growth > removal, except hardwood
 - Do reforest
 - Most are former industrial forests
 - 3 locations
 - Caveats
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Current and Further Research

- Refine data/update to 2011
- Timber supply
- Ecosystem Services
- Extend to the whole country



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- Contacts

