

The Economics of the Interaction between Cadastres and Land Registries

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Should we...

1. ... make land "demarcation" mandatory?
2. ... make the cadastre the only supplier?
3. ... merge cadastres & registries?

Q1. Should land "demarcation" be mandatory?

i.e., "demarcation" \equiv defining the "thing", from merely identifying the parcel to precisely locating its boundaries

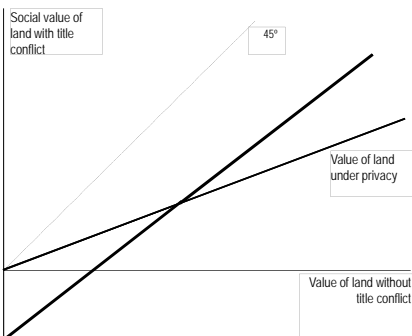
Sources



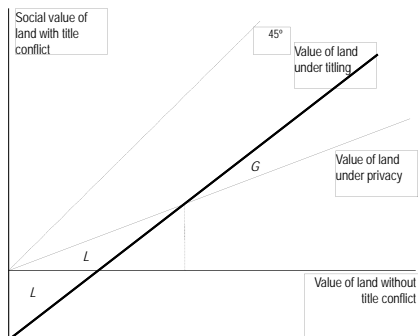
Based on analyses of cadastres in *Institutional Foundations of Impersonal Exchange*, University of Chicago Press, 2012.

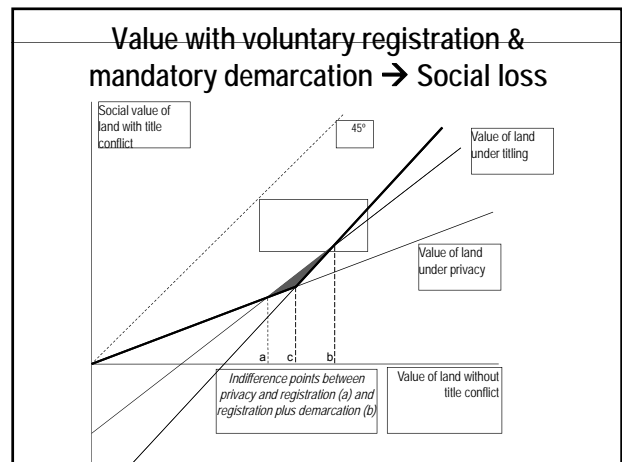
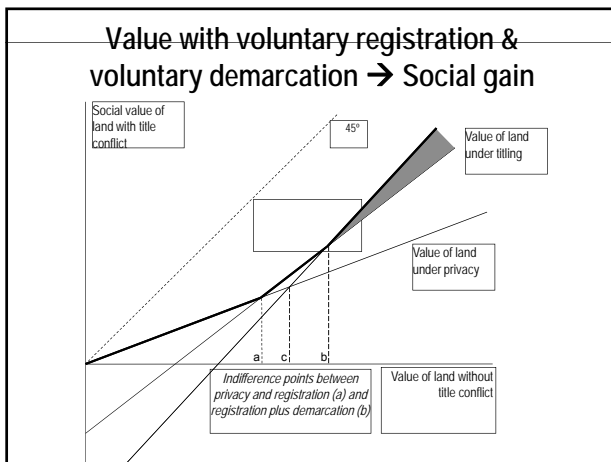
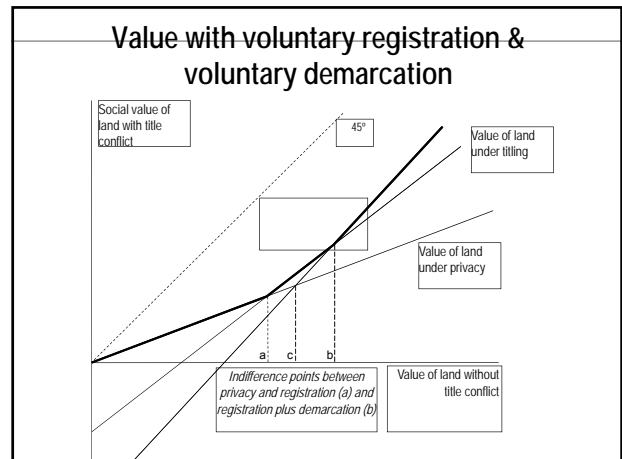
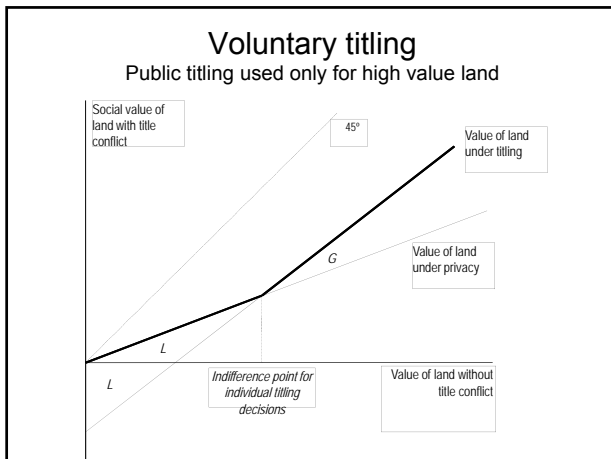
Further developed at: "Property as Sequential Exchange: The forgotten limits of private contract," *Journal of Institutional Econ.*, 2017.

Land under "privacy" (i.e., informal) (custom, possession, etc.) — Lower value in a % < 45°



Land under public titling Spending fixed cost F & unit cost t , greater land value





- ### Elements of demarcation
- Physical:
 - ◆ Merely identifying the thing: "Blackacre"
 - ◆ Locating its boundaries: metes & bounds ... GIS
 - Legal:
 - ◆ Social agreement on physical demarcation
 - ◆ In practice: neighbors' consent
 - In Roman times, "it was standard practice to call the neighbours to witness a conveyance by delivery. This allowed the transferee to verify that the transferor and his neighbours agreed on the boundaries, or, if they did not, to pinpoint the area of dispute..." (Honoré 1989:139)

- ### Is graphical info. valuable without legal demarcation? Example:
- "Topographic drawings signed by the contracting parties and the civil engineer must be attached to all transfer deeds of real estate property".
(Papamichalopoulos & Iconomidou, "Greece," in *The ICL Guide to Real Estate 2016*, London: GLG)
 - not signed by neighbors → no legal demarcation of boundaries → hardly of any value → non-viable "solutions" based on the lapse of time?

Mandatory demarcation?

At what level of precision?

- Socially optimal decision
 - ◆ Individual costs & benefits (i.e., the red triangle)
 - ◆ Possible “externalities”
- Drivers? \equiv Where are *a*, *c* & *b* located?
 - ◆ type of demarcation: precision, physical vs. legal
 - ◆ type of asset & legal status of the rights
 - ◆ incidence of surveying on litigation

Empirical findings →

Individual costs and benefits

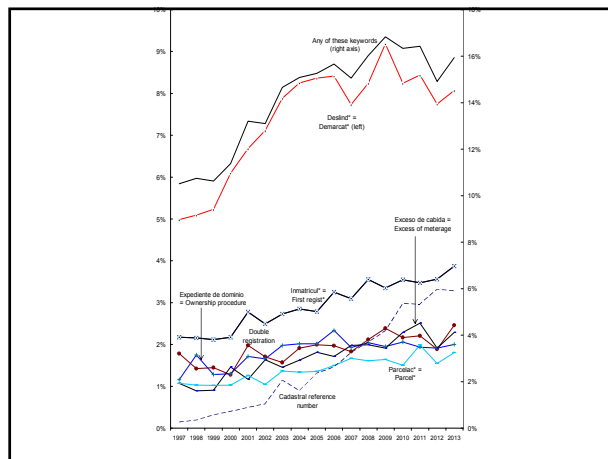
- Surveying costs for EU homes (ZERP 2007)
 - ◆ Average 464-556€, with substantial variance
 - Across countries, content of services, mandatory/volunt.
 - As a % of legal fees: 42%-18% for 100k-500 € home
 - ◆ Greece: 400€, 7 days (DB2017)
 - ◆ Generally, at most refers to physical demarcation
- Benefits
 - ◆ Security of title, but only with legal demarcation (a purge of boundaries), which often is *more costly*
 - ◆ Doubts on:
 - The importance of boundary conflicts?
 - The optimal timing of boundary purging?

Little litigation about boundaries

(Spanish courts, 1979-2013)

Approximate translation of keywords	All courts	%
demarcat* AND “Land Register”	5,251	7.55%
“first regist*” AND “Land Register”	3,746	5.39%
“double registration” AND “Land Register”	1,330	1.91%
“ownership procedure” AND “Land Register”	1,253	1.80%
“excess of meterage” AND “Land Register”	1,200	1.73%
parcel* AND “Land Register”	979	1.41%
Judgments with at least one boundary-related keyword	10,018	14.41%
Total number of title-related judgments (those with the chain “Land Register”)	69,514	100.00%

*Source: own research, based on CENDOJ database



No “exchange externalities” in land demarcation

- Serious exchange-related externalities when trading abstract in rem rights (mortgage)
 - ◆ If hidden enforced → other assets depreciate
- Not so for boundaries b/c:
 - ◆ Boundaries provide possessory evidence
 - ◆ Buyers can locate & ask parcel's neighbors for information and consent
 - ◆ Unknowns imprecision same for all parcels of the type → price protection & selective purge

Modest “use externalities” in land demarcation

- Clear for demarcation “infrastructure”:
 - ◆ Identifiers: place & street names, etc.
 - ◆ General monumentation & satellites
- Unclear for specific parcel boundaries
 - ◆ Even during regional titling efforts
 - Only sensible under universal titling,... which is not
 - Costly, slow and... de facto unsustainable
 - More so with greater precision
 - ◆ Even less clear for titled land: always sporadic
 - ◆ Two of many historical examples →

Two historical cases

1857 Eng: “the map is a good servant but a bad master”

- England
 - ◆ 1862 Land Transfer Act required precise geographic demarcation
 - ◆ 1875 Act backtracked, mandating plot *identification* but without demarcating boundaries
- Scotland
 - ◆ 1979 Land Registration Act: new registry replacing 1617 Register of Sasines, with mandatory physical demarcation → slow transition (55%), conflicts
 - ◆ 2012 Act allows alternatives to Ordnance Survey map

- Q2. Should the cadastre be the single supplier?
Q3. Should we merge cadastres & registries?

- Enforcement of property (*in rem*) rights is based on enhanced neutrality
 - ◆ Registrars and judges must be independent not only with respect to the transacting parties but with respect to “strangers to the transaction”—i.e., all third parties: absent rightholders, the public, etc.; and, especially, future transactors not only in the same parcel but in the same type of asset, the only way to avoid negative exchange externalities for rights in rem

Q2. Cadastre the only supplier? Depends on its role:

- “Tax” registration—always
- Physical demarcation: boundary info., maps
 - ◆ Similar to conveyancers (e.g. notaries) “monopoly”
- Legal demarcation: cadastre’s info. + additional evidence is evaluated by registries & judges
 - ◆ Logic: risk of partiality
 - Avoidable? How? Where? (e.g., Denmark?)
 - ◆ Partiality (+ incompetence?) explain why ambitious laws empowering cadastres are routinely defeated in courts

Q3. Should we merge or “integrate” cadastres & registries?

- Little, if any, *additional* benefits from sharing info.
 - ◆ Additional to mere info. connection
 - ◆ More so under voluntary demarcation
- Substantial potential cost because of their different function and their different masters
 - ◆ Tax collection for tax authority (+ w broader functions)
 - Lack of control: declarative
 - ◆ Referee of all property rightholders
 - Control for quasi-judicial protection of third parties
- Explains why, after mergers, they *act separately*
 - ◆ But costs: e.g., cross-subsidies → inefficiency, high TC

Keeping separate organizations favors better adaptation to the problem and the context

- Minimum monopoly (only registries need to be)
- Both organizations perform ≠ function → ≠ standards: e.g.,
 - ◆ Legal quality
 - cadastres are administrative, mandatory & “declarative”
 - registries are “contractual”, voluntary, review
 - ◆ Service time: slower for cadastres
 - ◆ Liability: stricter for registries
- Organizational structure:
 - ◆ Incentives adapted to ≠ human capital by ≠ professionals trained in ≠ disciplines (legal firms vs. public bureaucracy)
 - ◆ Avoiding risk of cross-subsidies, that distorts resource allocation
- Synergies reachable by linking databases, with greater flexibility, lower cost & lesser risk

The puzzle of merger advice

Source: Laarakker, de Vries, & Wouters, “Land Registration & Cadastre: One or Two Agencies?” 2016 World Bank Conference on Land & Poverty, p. 3

- Admit that mergers are not optimal & do not work
 - ◆ “no hard empirical evidence is available to promote the integrated model of cadastre and land registration organisations”
 - ◆ “formal organisational mergers have in practice not fundamentally changed the internal behaviour and culture within the organisation, let alone fundamentally changed or even integrated the former distinctive databases”
- ... but still aim “to stimulate mergers and further integration”

Data confirms merger is a bad idea

Source: World Banks' *Doing Business 2017*

- First, of 201 countries:
 - ◆ most Registry & Cadastre databases are separated:
 - 23 merged (11.44%)
 - 79 linked (39.30%)
 - 99 separate (49.25%)
 - ◆ But coordinated:
 - 123 use same ID number (61.19%)
- Moreover,
 - ◆ 50.75% claim to have electronic recording of boundaries
 - ◆ but 47.26% have not computerized maps in largest city
 - ◆ They have it... on a trial basis!?

“Registering property” performance

Performance indicators →	Number of procedures	Time to register (days)	Cost (%)
<i>Index of electronic technology implementation</i>	-0.122 (0.220)	-23.53*** (6.315)	-1.751*** (0.437)
<i>Merged registry & cadastre</i>	-0.880 (0.588)	-13.821 (16.837)	0.574 (1.166)
<i>Linked registry & cadastre</i>	-0.713* (0.401)	-2.169 (11.479)	0.673 (0.795)
<i>Same ID at registry & cadastre</i>	-0.874** (0.367)	-7.646 (10.525)	-0.707 (0.729)
R-squared	0.117	0.140	0.121
N of obs. (countries)	186	186	186

-Estimated with data from *Doing Business 2017*. * p<0.10, ** p<0.05, *** p<0.01. They include income level controls

Thoughts from a managerial perspective

- Like business firms: integration driven by
 - ◆ overestimating technology and underestimating complexity of organizational adaptation (here, the legal attributes of LR)
 - ◆ Rent seeking—monopoly, power, cross-subsidies
- Puzzle: Developed countries have separated organizations but developing countries are told to integrate them
- Civil servants may be tempted to strive for consistency between register and cadastre when the relevant consistency is between both and reality

Summing up: we should not...

- ... make land demarcation mandatory
- ... make the cadastre the only supplier
- ... merge cadastres & registries

Thank you for your attention