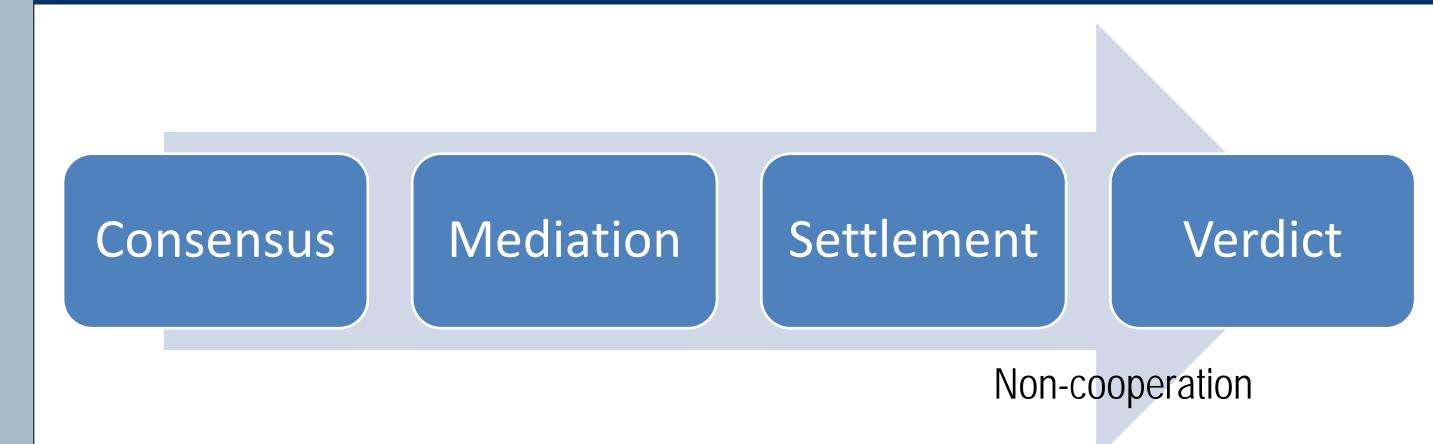
Tenancy in "Anticommons"? A Theoretical and Empirical Analysis of Co-ownership Yun-chien Chang Assistant Research Professor & Deputy Director of Center for Empirical Legal Studies Institutum Iurisprudentia, Academia Sinica, Taiwan

Motivation

Tenancy in common:

- Tragedy of the commons? No!
- Tragedy of the anti-commons? No!
- Loss of Black farms? Misunderstood.

Does cooperation among co-tenants often fail?



Do co-tenants or courts tend to "share-chop"?

- •2 multinomial logistic regression models
- -Dep. var.: choice among partition by sale, partition in kind, and partial partition.
- -Whether the court / plaintiff tends to choose partition by sale when <u>"co-tenant's / plaintiff's</u>

Theoretical arguments

Better framework

- Fragmentary share problem
- Underuse and underinvestment= anticommons
- But NOT tragic
- Unilateral partition right as the escape hatch
- Fragmentary land problem
- Conditions
- Small size of co-owned land

| Empirical Strategy | | | | | | |
|-------------------------|--------|-----------------------------------|-------------------------------|--|--|--|
| | | Partition methods | | | | |
| | | Voluntary | Involuntary | | | |
| Partition approaches | Divide | Partition in kind by consensus | Partition in kind by court | | | |
| | Sell | Partition by sale by consensus | Partition by sale by court | | | |
| | Hybrid | Partial partition by consensus | Partial partition by court | | | |

- -Cooperation: partition by consensus
- –Non-cooperation: partition by court

| | By consensus | Through mediation in a local mediation committee | other types | settlemen | By court | Total | |
|--|--|---|-------------|-----------|----------|--------|--|
| Partition in kind and partial partition | 50,085 | 284 | 2,538 | 74 | 3,627 | 56,608 | |
| Partition by sale | 0 | 0 | 2,538 | 718 | 862 | 4,118 | |
| Total | 50,085 | 284 | 5,076 | 792 | 4,489 | 60,726 | |
| Computed number. Estimated number. Assumed number. Cooperation rate = 82.5% = 50085 / 60726 Non-cooperation rate = 7.5% = 4489 / 60726 | | | | | | | |
| Partition | Partition in kind and partial partition of co-owned land | | | | | | |

minimum land size" is small.

The court model

| | partition approaches ordere | d by the court | | |
|--|---|--|--|--|
| (Part | ition by sale as the base) | Dantial nantitian | | |
| | Partition in kind | Partial partition | | |
| | (1) | (2) | | |
| Natural log of co-tenant's | 0.6189*** | 0.5851*** | | |
| minimum land size | (0.1533) | (0.0869) | | |
| Natural log of plaintiff number | -0.1646 | -0.3745 | | |
| | (0.7081) | (0.7293) | | |
| Natural log of defendant | -0.9739* | -0.2582 | | |
| number | (0.4022) | (0.2346) | | |
| =1 if any plaintiff prefers | 2.6966** | -1.6209+ | | |
| partition in kind | (0.8469) | (0.9708) | | |
| =1 if any defendant prefers | 1.4990+ | 0.2323 | | |
| partition in kind | (0.8207) | (0.8710) | | |
| =1 if before amendment was | -2.1777*** | -0.9204 | | |
| passed | (0.6030) | (0.5761) | | |
| =1 if after amendment was | -0.7255 | -0.8094 | | |
| passed but before effective | (1.2985) | (0.6441) | | |
| | (| | | |
| constant | -2.2588* | 0.1633 | | |
| | (1.0233) | (0.7251) | | |
| Zoning dummies | Yes | Yes | | |
| | 0.5060 | | | |
| Pseudo R-Square | 0.50 |)60 | | |
| Ν | 40 | 4 | | |
| N The Dependent variable: pa | 40 e plaintiff mode rtition approaches petitione | 4 | | |
| N The Dependent variable: pa | 40 e plaintiff mode rtition approaches petitione tition by sale as the base) | 4 ed by the plaintiff | | |
| N The Dependent variable: pa | 40 e plaintiff mode rtition approaches petitione tition by sale as the base) Partition in kind | 4 ed by the plaintiff Partial partition | | |
| N The Dependent variable: pa (Par | 40 e plaintiff mode rtition approaches petitione tition by sale as the base) Partition in kind (1) | 4 ed by the plaintiff Partial partition (2) | | |
| N Dependent variable: pa (Par Natural log of plaintiff's | 40 e plaintiff mode rtition approaches petitione tition by sale as the base) Partition in kind (1) 0.7000*** | 4 ed by the plaintiff Partial partition (2) 0.6925*** | | |
| N Dependent variable: pa (Par Natural log of plaintiff's minimum land size | 40 Example 2 Partition approaches petitione Solution by sale as the base Partition in kind (1) 0.7000*** (0.1593) | 4 ed by the plaintiff Partial partition (2) 0.6925*** (0.1114) | | |
| N Dependent variable: pa (Par Natural log of plaintiff's minimum land size | 40 e plaintiff mode rtition approaches petitione tition by sale as the base) Partition in kind (1) 0.7000**** (0.1593) -0.3034 | 4 ed by the plaintiff Partial partition (2) 0.6925*** (0.1114) -0.3058 | | |
| N Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number | 40 e plaintiff mode rtition approaches petitione tition by sale as the base) Partition in kind (1) 0.7000**** (0.1593) -0.3034 (0.8025) | 4 ed by the plaintiff Partial partition (2) 0.6925*** (0.1114) -0.3058 (0.4870) | | |
| N Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number | 40 e plaintiff mode rtition approaches petitione tition by sale as the base) Partition in kind (1) 0.7000*** (0.1593) -0.3034 (0.8025) -1.0775*** | 4 ed by the plaintiff Partial partition (2) 0.6925*** (0.1114) -0.3058 (0.4870) 0.1093 | | |
| N The Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number Natural log of defendant number | 40 Example 2 Contract State 11 Contract State 11 Contract State 11 Contract State 11 Contract State 11 Contract State 11 Contract State 11 Contract State 11 Contract State 11 Contract State 11 Contract State 11 Contract Sta | 4 by the plaintiff Partial partition (2) 0.6925*** (0.1114) -0.3058 (0.4870) 0.1093 (0.1756) | | |
| N The Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number Natural log of defendant number =1 if any defendant prefers | 40 e plaintiff mode rtition approaches petitione tition by sale as the base Partition in kind (1) 0.7000*** (0.1593) -0.3034 (0.8025) -1.0775*** (0.2543) 2.6835*** | A add by the plaintiff Partial partition (2) 0.6925*** (0.1114) -0.3058 (0.4870) 0.1093 (0.1756) -1.1724 | | |
| N The Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number Natural log of defendant number =1 if any defendant prefers partition in kind | 40 Example 2 Contract State 1 Contract State 1 Contract 1 | A A A A A A A A A A A A A | | |
| N The Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number Natural log of defendant number =1 if any defendant prefers partition in kind =1 if before amendment was | 40 e plaintiff mode rtition approaches petition tition by sale as the base) Partition in kind (1) 0.7000*** (0.1593) -0.3034 (0.8025) -1.0775*** (0.2543) 2.6835*** (0.6557) 1.3125** | 4 by the plaintiff Partial partition (2) 0.6925*** (0.1114) 0.6925*** (0.1114) 0.1093 (0.4870) 0.1093 (0.1756) -1.1724 (0.8472) 0.3481 | | |
| N The Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number Natural log of defendant number =1 if any defendant prefers partition in kind =1 if before amendment was passed | 40 Example 2 Contract State 1 Contract State 1 Contract 1 | 4 by the plaintiff Partial partition (2) 0.6925*** (0.1114) 0.6925*** (0.1114) 0.3058 (0.4870) 0.1093 (0.1756) 1.1724 (0.8472) 0.3481 (0.4173) | | |
| N Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number Natural log of defendant number =1 if any defendant prefers partition in kind =1 if before amendment was passed =1 if after amendment was | 40 Example 2 Contract Stress Str | 4 by the plaintiff Partial partition (2) 0.6925*** (0.1114) 0.6925*** (0.1114) -0.3058 (0.4870) 0.1093 (0.4870) 0.1093 (0.1756) -1.1724 (0.8472) 0.3481 (0.4173) 0.4559 | | |
| N Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number Natural log of defendant number =1 if any defendant prefers partition in kind =1 if before amendment was passed =1 if after amendment was | 40 Example 2 Contract State 1 Contract State 1 Contract 1 | 4 by the plaintiff Partial partition (2) 0.6925*** (0.1114) 0.6925*** (0.1114) 0.3058 (0.4870) 0.1093 (0.1756) 1.1724 (0.8472) 0.3481 (0.4173) | | |
| N The Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number Natural log of defendant number =1 if any defendant prefers partition in kind =1 if before amendment was passed =1 if after amendment was passed but before effective | 40 e plaintiff mode rtition approaches petitione tition by sale as the base Partition in kind (1) 0.7000*** (0.1593) -0.3034 (0.8025) -1.0775*** (0.2543) 2.6835*** (0.2543) 2.6835*** (0.6557) 1.3125** (0.4468) 0.3187 (0.5995) | 4 A by the plaintiff Partial partition (2) 0.6925*** (0.1114) 0.6925*** (0.1114) -0.3058 (0.4870) 0.1093 (0.1756) -1.1724 (0.8472) 0.3481 (0.8472) 0.3481 (0.4173) 0.4559 (0.7543) | | |
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| N Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number Natural log of defendant number =1 if any defendant prefers partition in kind =1 if before amendment was passed =1 if after amendment was passed but before effective constant | 40 2 plaintiff mode rtition approaches petitione tition by sale as the base) Partition in kind (1) 0.7000*** (0.1593) -0.3034 (0.8025) -1.0775*** (0.2543) 2.6835*** (0.6557) 1.3125** (0.4468) 0.3187 (0.5995) -2.8462*** (0.8368) | 4 ed by the plaintiff Partial partition (2) 0.6925*** (0.1114) -0.3058 (0.4870) 0.1093 (0.1756) -1.1724 (0.8472) 0.3481 (0.4173) 0.4559 (0.7543) -2.8539*** (0.8160) | | |
| N Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number Natural log of defendant number =1 if any defendant prefers partition in kind =1 if before amendment was passed =1 if after amendment was passed but before effective constant | 40 2 Dialintiff mode 2 Dialintiff mode 3 Diality and a sthe base Partition in kind (1) 0.7000*** (0.1593) -0.3034 (0.8025) -1.0775*** (0.2543) 2.6835*** (0.6557) 1.3125** (0.6557) 1.3125** (0.4468) 0.3187 (0.5995) -2.8462*** (0.8368) Yes | 4 Partial partition (2) 0.6925*** (0.1114) 0.6925*** (0.1114) 0.1093 (0.1756) 0.1093 (0.1756) 1.1724 (0.8472) 0.3481 (0.8472) 0.3481 (0.4173) 0.4559 (0.7543) -2.8539*** (0.8160) Yes | | |
| N The Dependent variable: pa (Par Natural log of plaintiff's minimum land size Natural log of plaintiff number Natural log of defendant number =1 if any defendant prefers partition in kind =1 if before amendment was passed =1 if after amendment was passed but before effective | 40 2 Dialatiff mode state of the base Partition in kind (1) 0.7000*** (0.1593) -0.3034 (0.8025) -1.0775*** (0.2543) 2.6835*** (0.6557) 1.3125** (0.4468) 0.3187 (0.5995) -2.8462*** (0.8368) Yes 0.4 | 4 ed by the plaintiff Partial partition (2) 0.6925*** (0.1114) -0.3058 (0.4870) 0.1093 (0.1756) -1.1724 (0.8472) 0.3481 (0.4173) 0.4559 (0.7543) -2.8539*** (0.8160) | | |

- Large number of co-tenants
- Physical division

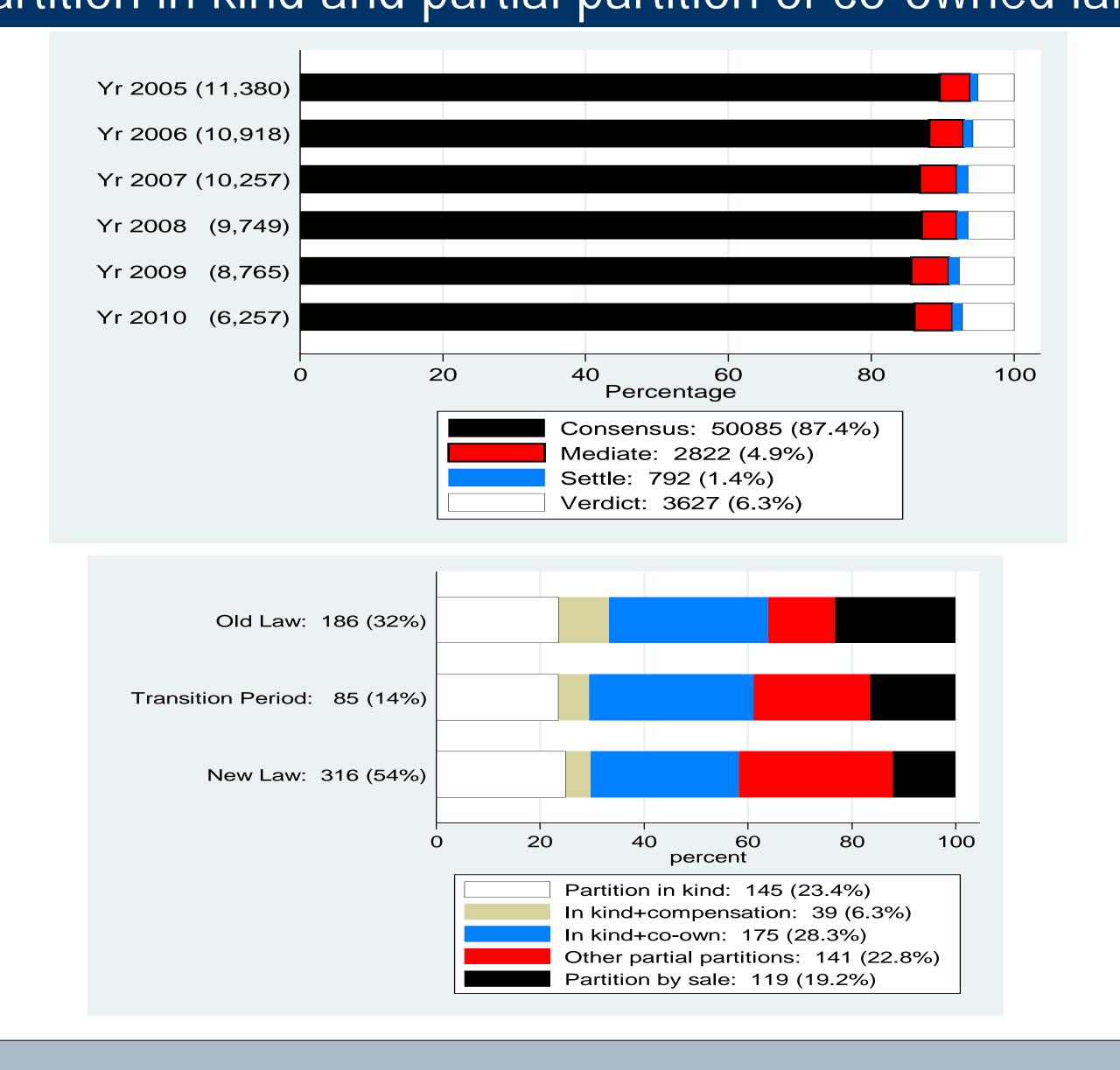
Empirics: Data

• Data 1:

- -Taiwan, 2005 2010
- -All registrations of partition by consensus, mediation, settlement, or adjudication -Not including: partitions by sale
- -N>56,000

–Data 2:

-all district court verdicts in Taiwan, 2005 – 2010



-N=6790

• Data 3: Stratified random sample of 25% of all district court verdicts in Taiwan in 2008– 2010.

• N=619.

• Data 4:

 Distribution of the # of co-owners on Feb.11, 2011 in Taiwan • N>17 million

