

The Effect of Land Market Restrictions on Employment Pattern and Wages: Evidence from Sri Lanka

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Motivation

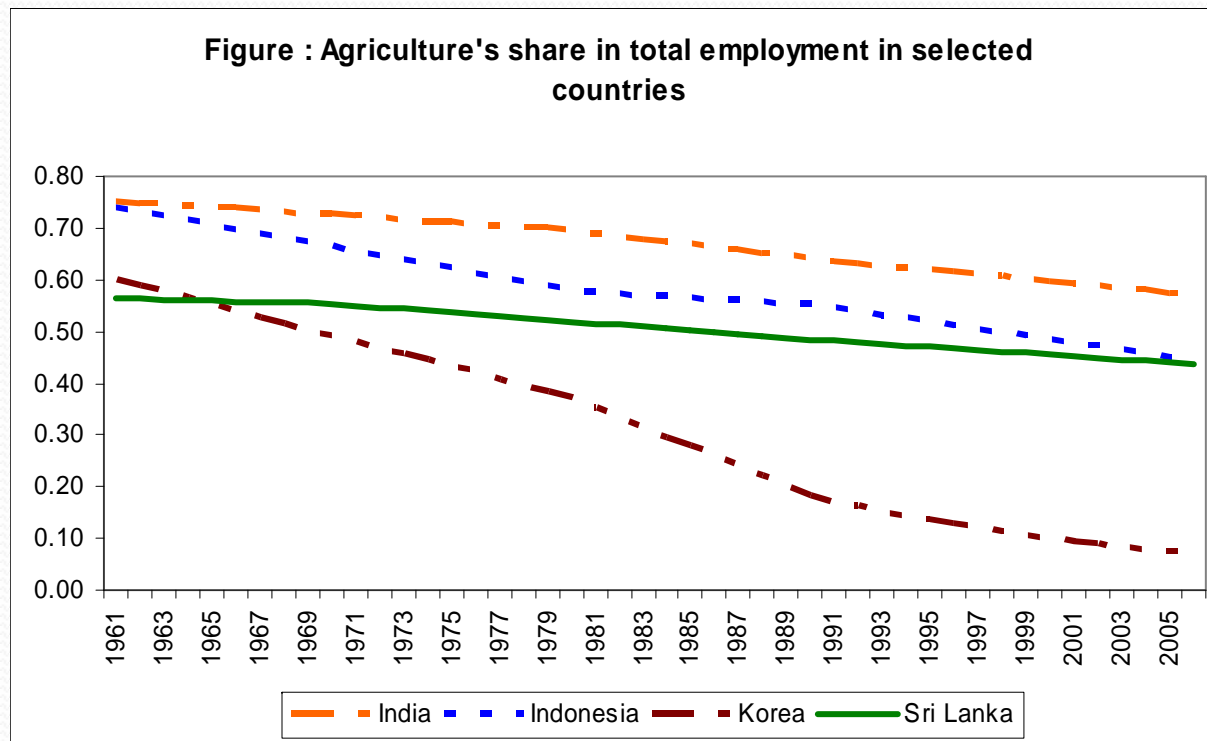
- A surge in interest in labor market outcomes of land market reforms:
 - Hayashi and Prescott (2008) paper on land inheritance restriction in pre-war Japan
 - Land titling/reforms/restrictions effect on labor supply: Field (2007) for urban Peru, Iyer, Meng and Qian (2009) for urban China, Do and Iyer(2008) for Vietnam, Galiani and Schargodsky (2005) for urban Brazil, Deininger et al (2003) for Ethiopia and many more papers
- Main focus on broader labor market issues:
 - Does it affect integration of labor market?
 - What impact it has on employment pattern/transition from farm to non-farm activities
 - Misallocation of labor leads to greater regional disparity
 - Employment transition is needed for growth and poverty reduction



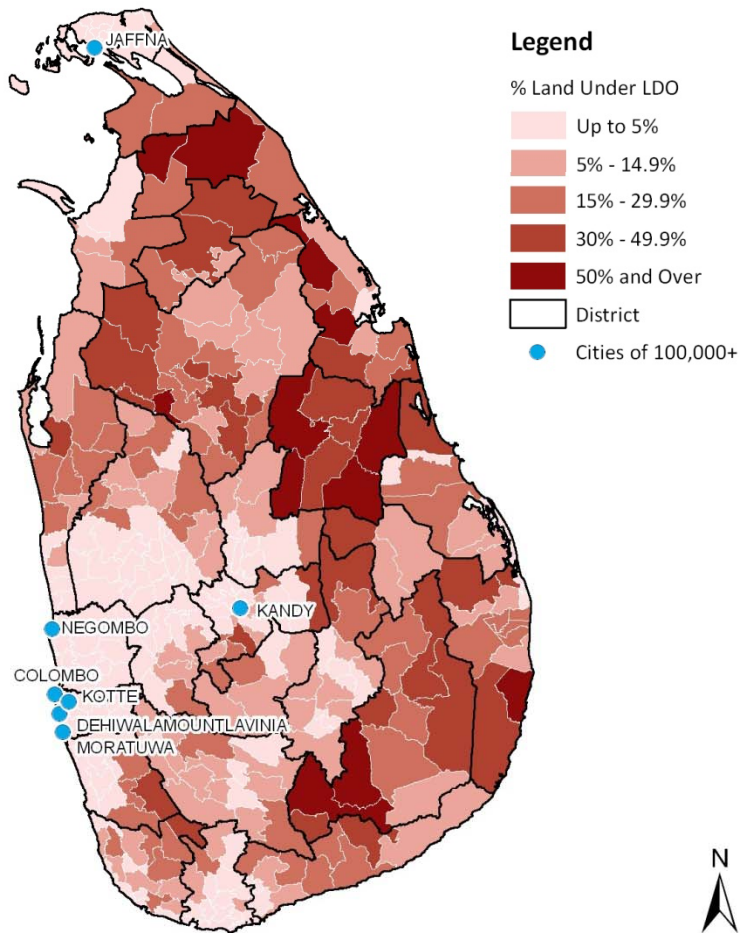
Background

- Sectoral Transformation in SL has been much slower
- Stark regional differences in employment pattern and wages: Western province richest in terms of income and has most diversified employment structure (agri share in employment:12%)
- Agriculture's role much more important in other provinces (40% of employment), and most important in poorest provinces (60% of employment)
- Sri Lanka has done remarkably well in provision of education, health and other social services as well as infrastructure. Liberalized its economy in 1977.
- Land markets: Large share of agricultural land owned by the government. land leased from government (known as LDO land) carries many restrictions: no sales or mortgage or rental or subdivision allowed

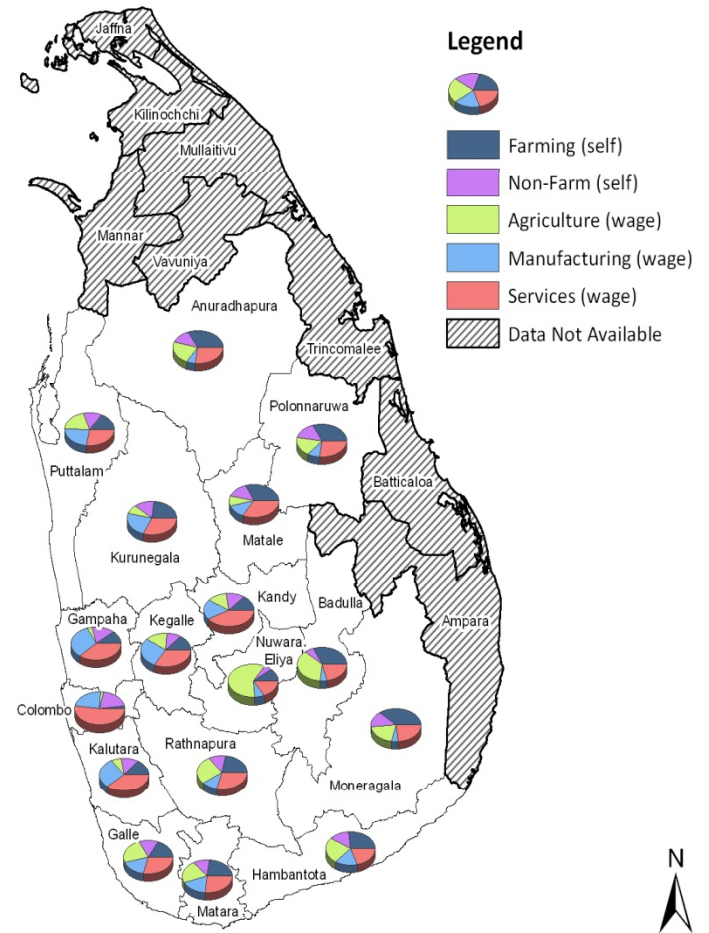
Sectoral Transformation in Sri Lanka



Percent of Land Under LDO, by DSD



Employment Shares, by District





Theory and Empirical Challenge

- Theoretical Predictions:
 - Poor integration of labor market (and higher wage dispersion) because of sales/ subdivision restriction
 - Employment in different activities will be affected differently
- Empirical Challenge:
 - Correlation of LDO leases and unobserved area characteristics (e.g land productivity)
 - Correlation between crop yield and incidence of LDO leases is positive (because of public investment in irrigation, infrastructure etc), causing attenuation bias
 - Instrumental variable approach: Regressions include own area characteristics as controls and uses other area characteristics as instruments

Main Result: Wages

- Wages (agricultural and manufacturing) in villages with more land under LDO leases are substantially lower. They are much more lower if village is near the market relative to villages which are farther away from markets.

Table 4: Market Access, Land Tenure Arrangement and Income:
Fixed Effect IV Regression Results

	Log(Real Annual wage)			
	Agriculture	Manufacturing	Unskilled Serv.	Skilled Serv.
% Area Under LDO	-2.538 (5.22)***	-1.383 (2.68)***	-1.162 (1.94)*	0.071 (0.12)
Travel Time to Large City	-0.192 (5.80)***	-0.034 (1.34)	-0.038 (1.02)	0.003 (0.16)
Area LDO*Travel Time	0.497 (4.93)***	0.496 (2.98)***	0.364 (1.43)	-0.075 (0.37)

Main results: Employment

- Percent of land under LDO restrictions in a village affect employment in skilled non-farm activities adversely.
- LDO's affect also depends on how far the village is from the market: negative effects are more pronounced in areas closer to markets
- Effect on agricultural wage work is in opposite direction

Table 6: Employment Choice, Access to Market and Land Restrictions

Marginal Effects from Conditional Multinomial Logit Regression

	Self-employ.		Wage employment in		
	Non-Agriculture	Agriculture	Manufacturing	Unskilled Serv.	Skilled Serv.
% Area Under LDO	-0.178 (2.83)***	0.263 (4.14)***	-0.190 (2.72)***	0.009 (0.11)	-0.286 (4.19)***
Travel Time to Large City	-0.002 (0.33)	0.016 (4.38)***	-0.020 (3.93)***	0.001 (0.17)	-0.011 (3.22)***
Area LDO*Travel Time	0.006 (0.35)	-0.032 (1.76)*	0.043 (1.94)*	-0.039 (1.81)*	0.040 (2.47)**



Concluding Remarks

- Sales restrictions: hinder spatial labor mobility, lead to segmentation of labor markets, higher regional inequality and slower sectoral transformation.
- Sequencing of land reforms