

# Myanmar's Mechanization Revolution: Symptoms of Structural Transformation

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Myat Thida Win<sup>1</sup>, Ben Belton<sup>2</sup>, and Xiaobo Zhang<sup>3</sup>

<sup>1</sup> Center for Economic and Social Development

<sup>2</sup> Michigan State University

<sup>3</sup> International Food Policy Research Institute



# Outline

- Overview
- Data and Methods
- Evidence of Mechanization
  - From Demand side
  - From Supply side
- Drivers of mechanization
- Conclusions

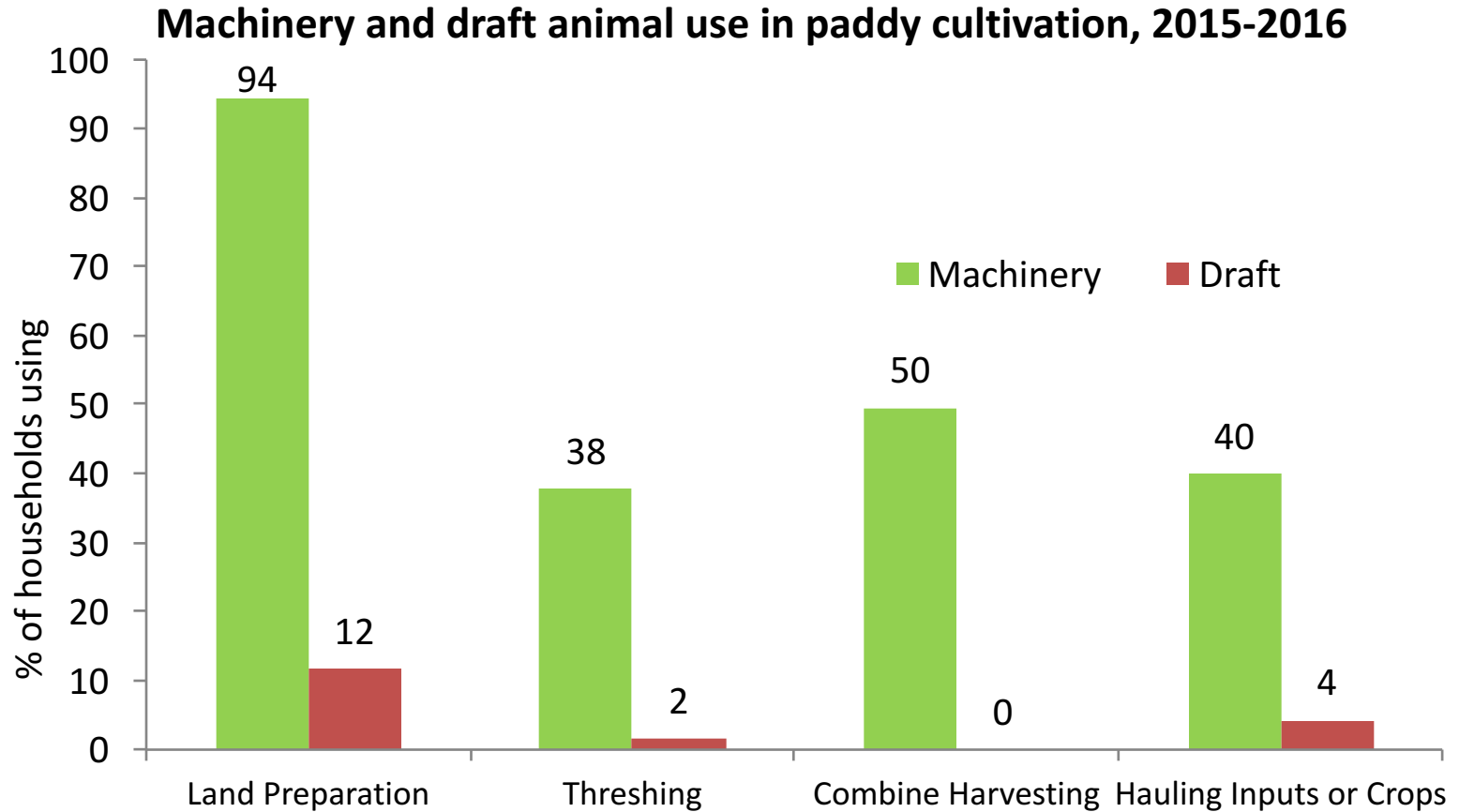
# Overview

- Rural Economy, traditionally viewed as stagnant, low wage, low productivity, agricultural-based
- Unprecedented growth since 2011
- Myanmar as the world's fastest-growing economy (WEF 2016)
- Services and construction are the main driver for this growth

# Data and Methods

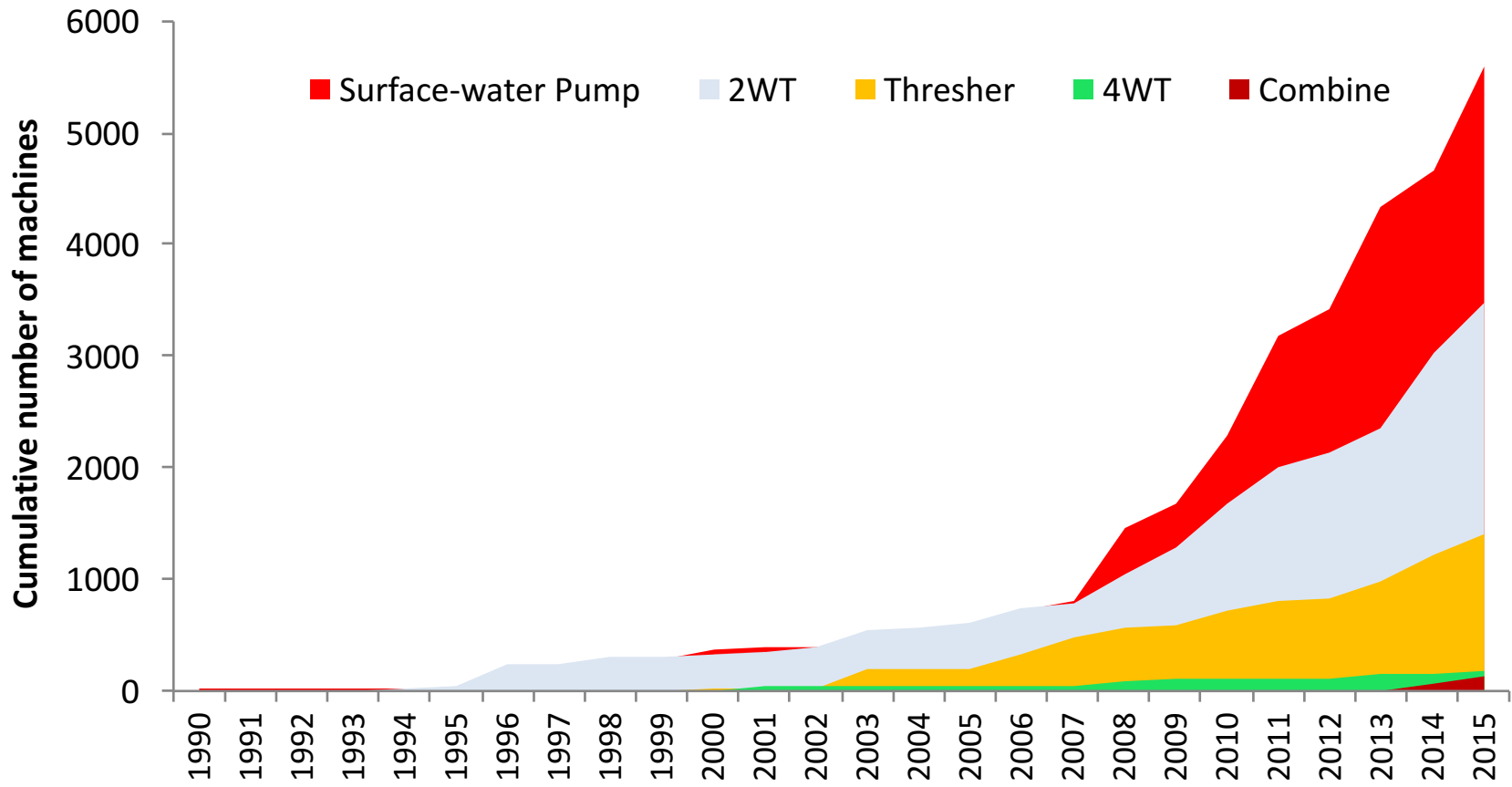
- A rapid assessment in Ayeyarwaddy, Yangon, Mandalay, and Magway
- Household survey of 1100 households in four townships in Delta
- Enterprise survey of 49 agricultural machinery businesses in Yangon

# Widespread Adoption of Machinery



**Percentage of households which adopted machineries for different agricultural activities in four townships in Delta**

# Changes in Number of Machines Purchased



Cumulative Purchases of Selected Machinery (1990-2015)











# Increasing Machinery Sales

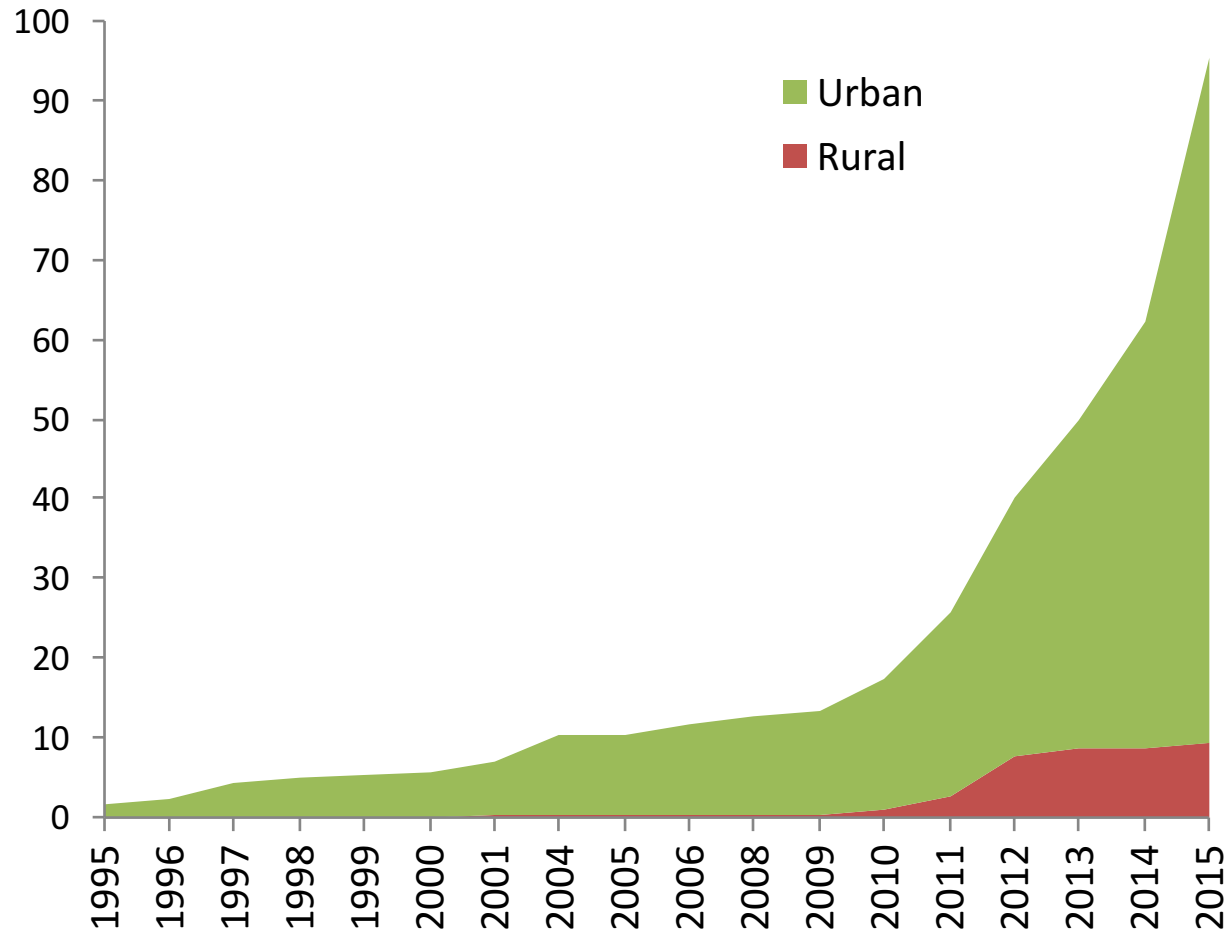
	2012	2013	2014	2015	2016	Change
2WT & Accessories	9598	11715	14912	14872	20684	116%
4WT	275	420	870	1662	3200	1064%
Combine	0	40	237	955	2372	5830%
Reaper	305	335	860	1351	1244	308%
Thesher	0	30	220	167	46	53%

**Sales of selected machinery by dealerships in Mingalar Thanmyint compound (2012-2016)**



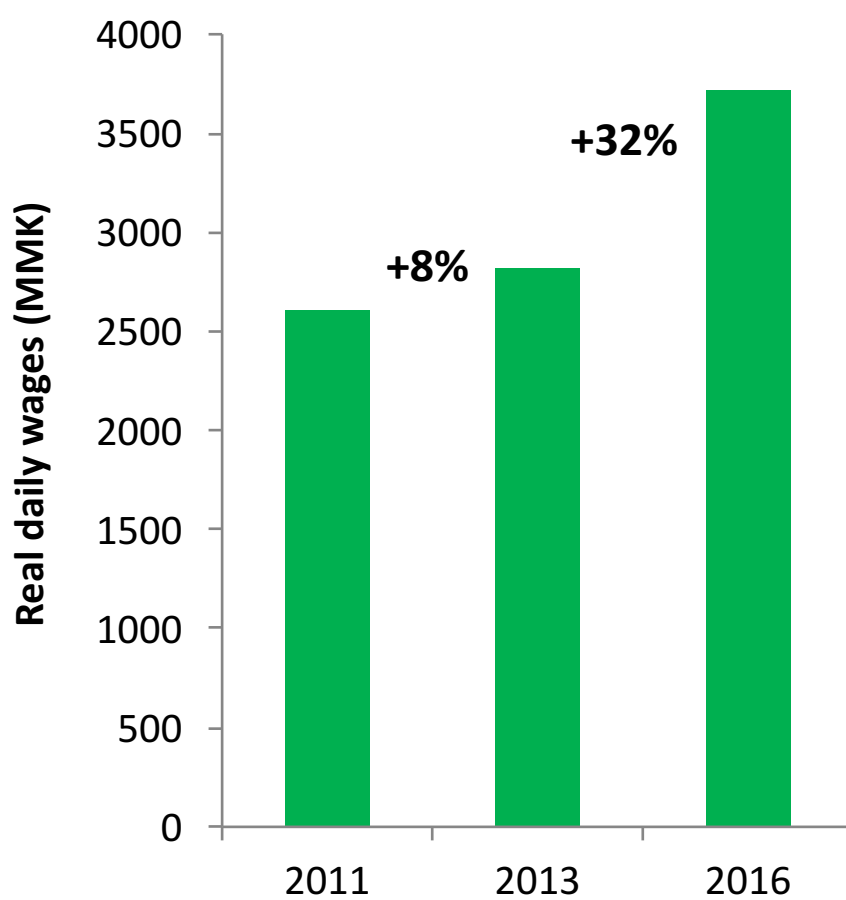
# Drivers of Mechanization

# Migration



- Migration leading to labor shortage
- 16% of HH have migrants
- Average age of migrant is 21
- 8% international
- 70% employed in manufacturing

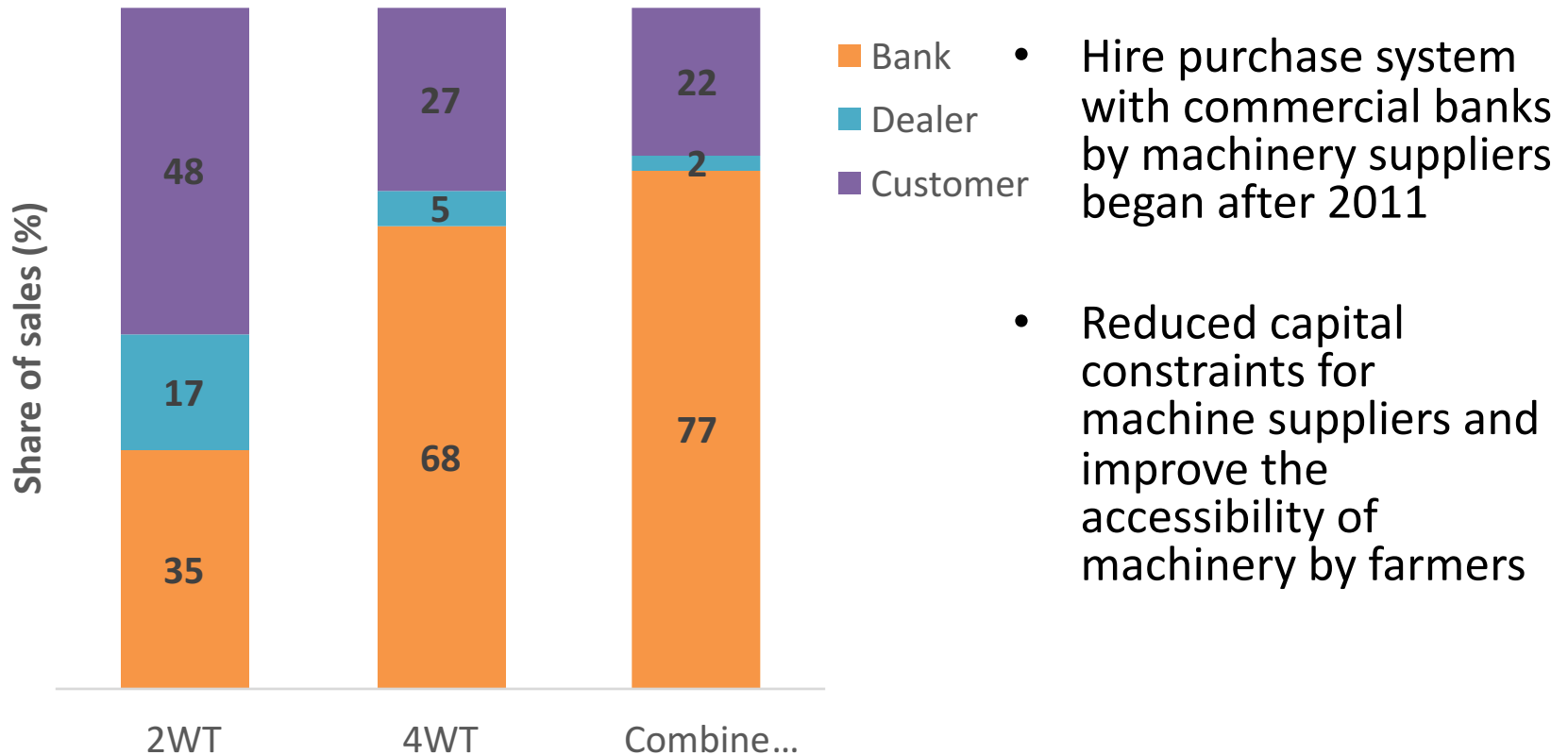
# Increasing Wages



Main impact of migration is on rural labour supply and wage rates

**Average real daily wage for male agricultural labour (2011-2016)**

# Improving Access to Finance



**Source of finance for machinery purchases in Mingalar Thanmyint compound (2016)**



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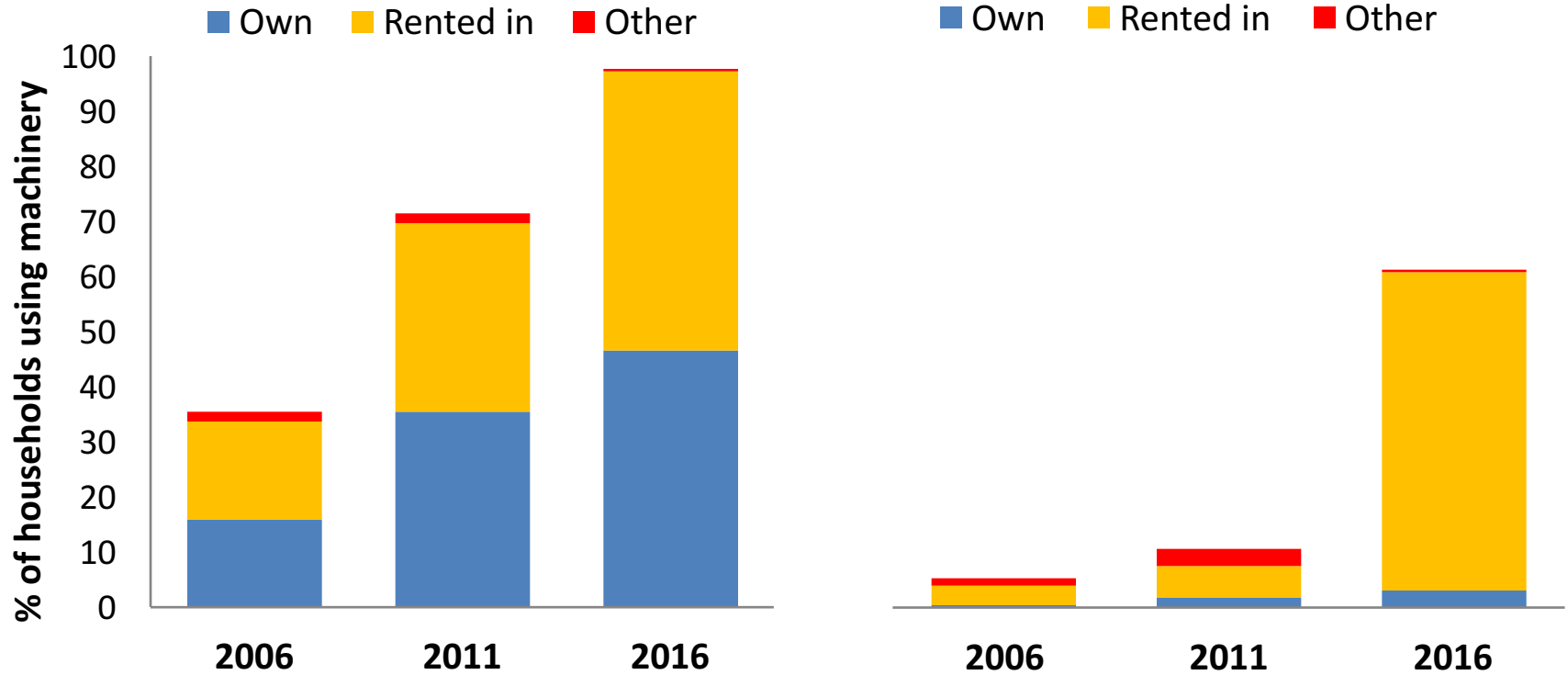
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# Rental Market

## Machine Use for Land Preparation

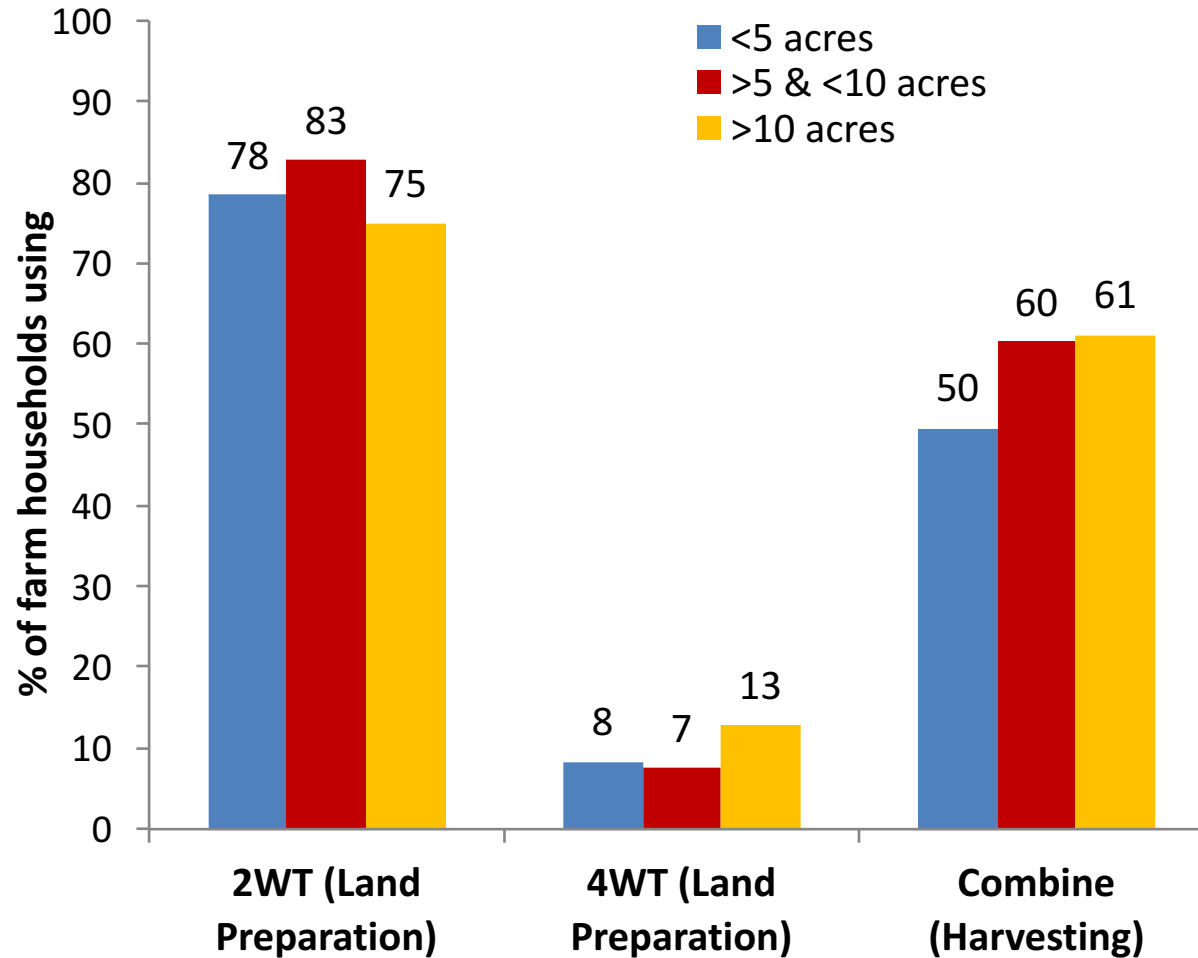
## Machine Use for Harvesting



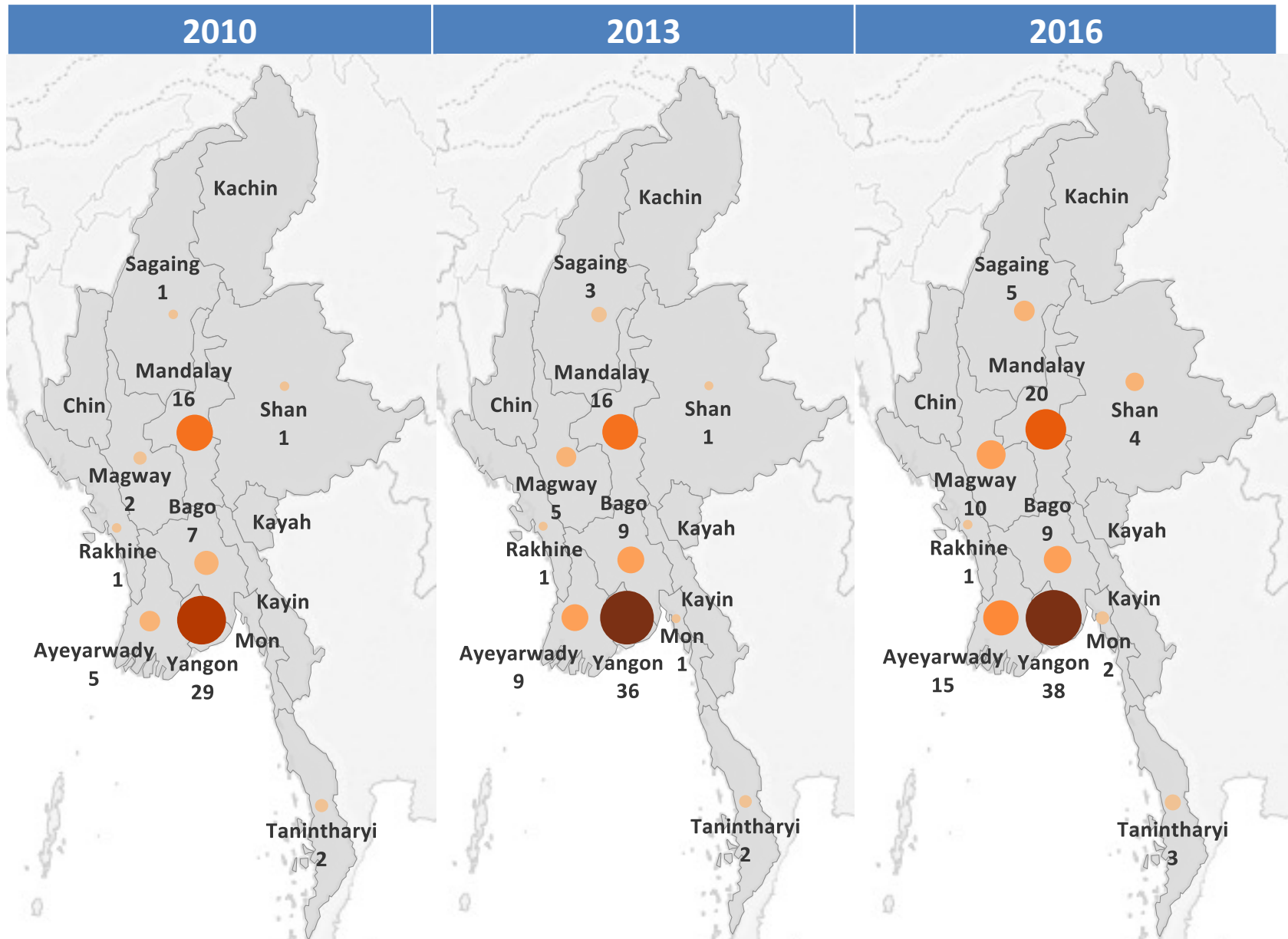




# Scale-neutral Technology



# Geographical spread of machine supply businesses



# Conclusions

- Mechanization supported by “Enabling policy environment”
  - market-led model
  - no policy distortion
  - partial liberalization of banking sectors and transferrable land use rights
  - Form 7 used as collateral for hire-purchase

# Conclusions (Cont'd)

- Implications for rural population
  - Farmers: scale-neutral technology, and continue to be economically viable in the face of rising labor cost
  - Labor: uncertain effects on agricultural labor; the effects can be either positive or negative depending on the rate of mechanization vs the rate of migration



Thank you!!