

Is Agriculture Still the Engine for Poverty Reduction?

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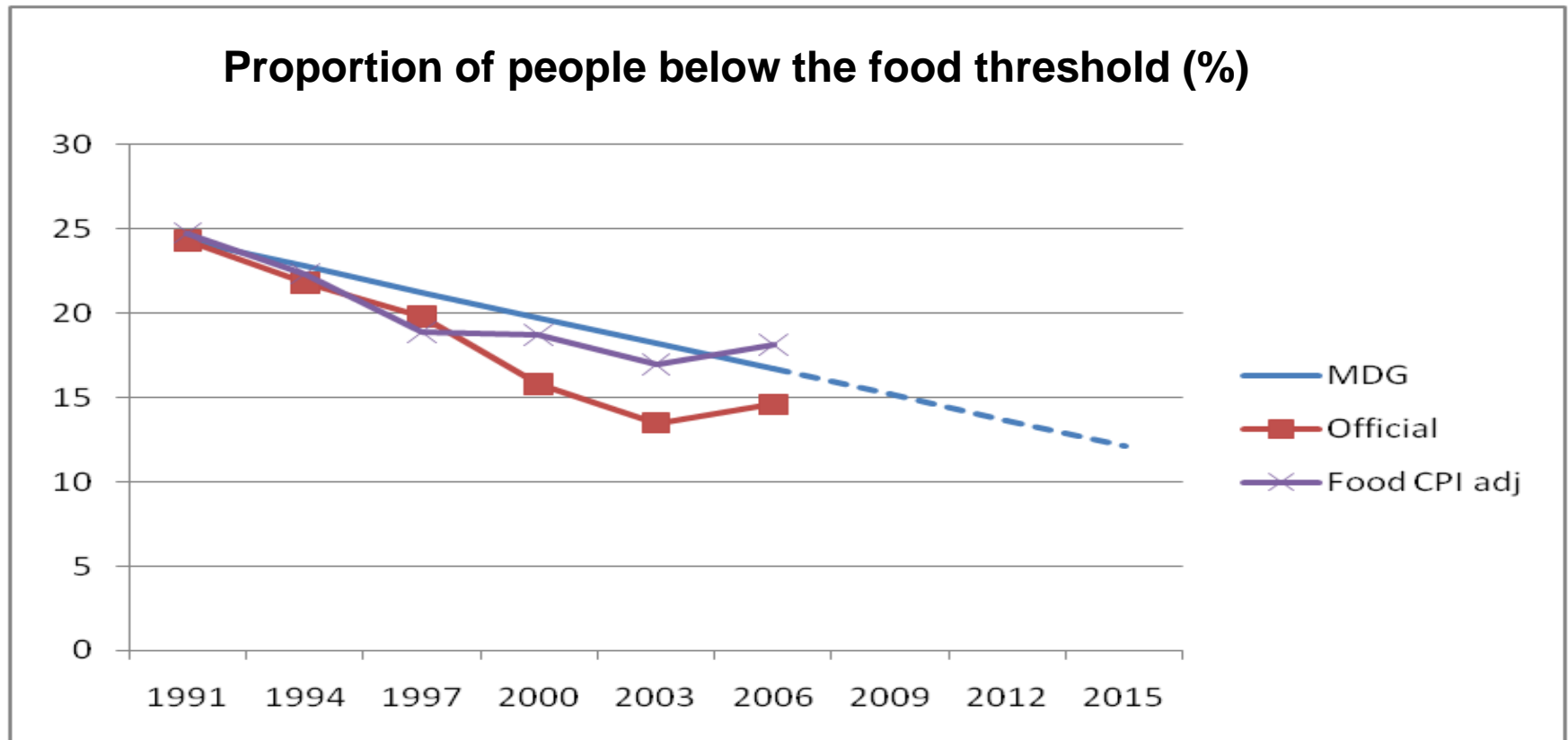
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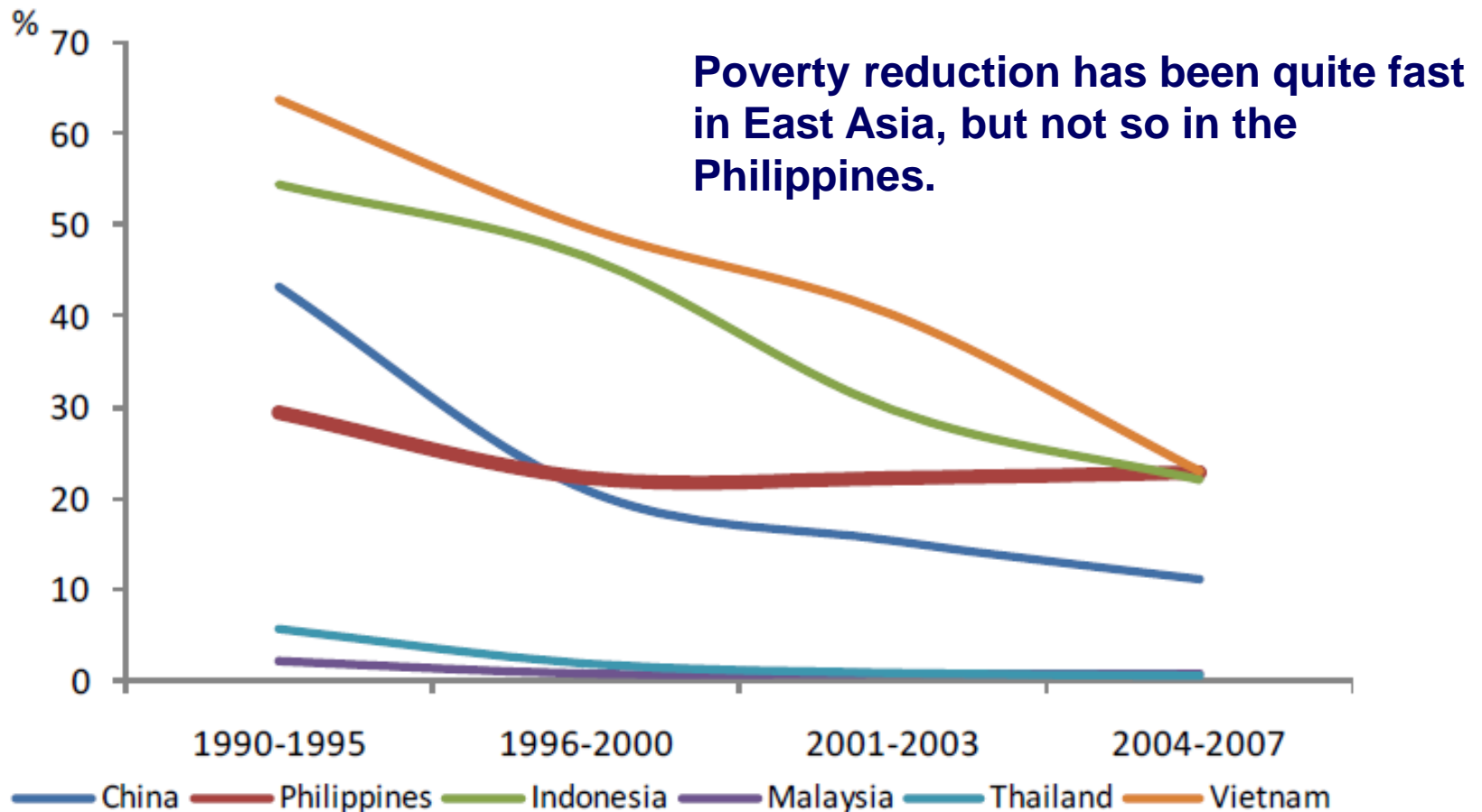
SEARCA, Los Baños, 9 November 2010

Extreme poverty is high—and worse than what official data indicate



The number of extreme poor in 2006 was about **3.0 million more** than officially reported.

Persistent *extreme poverty*



Notes: Estimates refer to the proportion of population with income per capita below US\$1.25 a day (in PPP). Figures for Indonesia are approximation from urban/rural estimates.

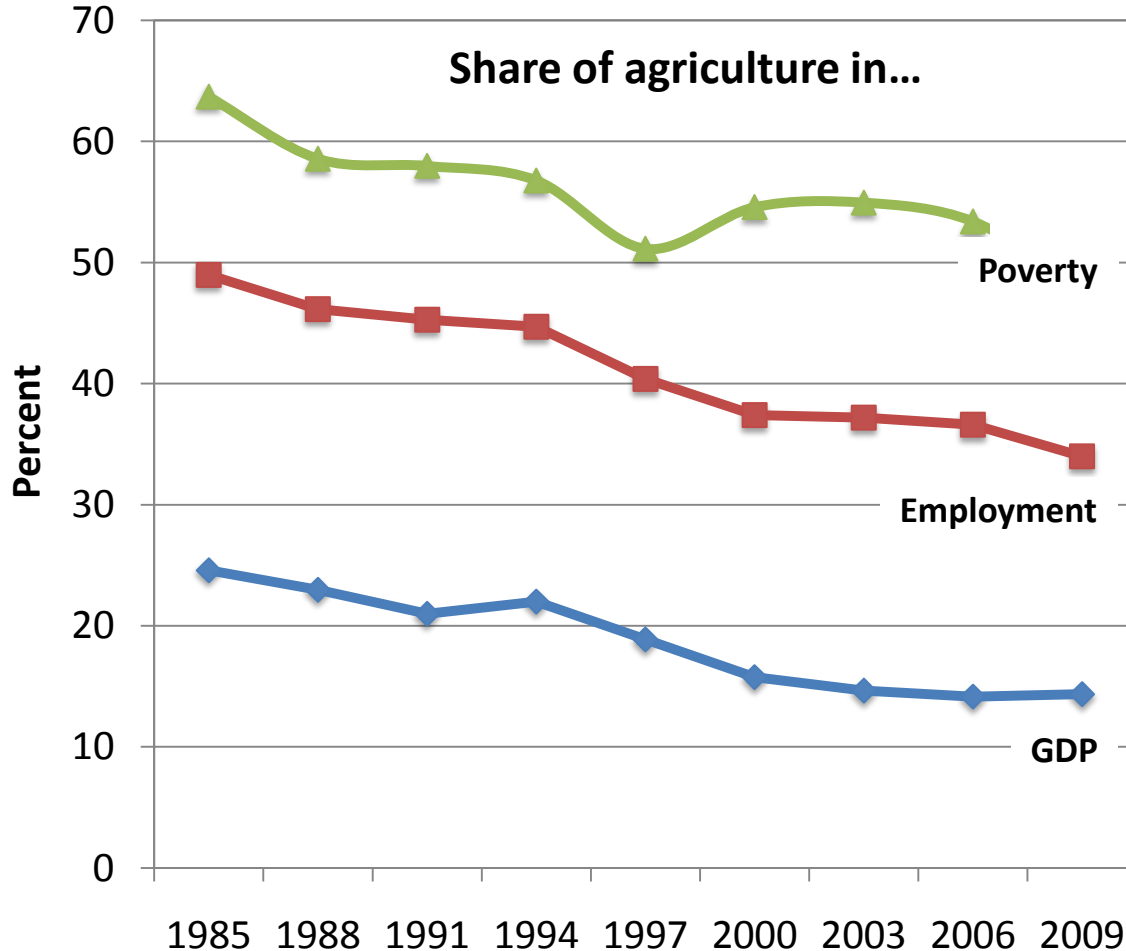
Sources: PovcalNet – World Bank; Chen and Ravallion (2008) for China estimates; Badan Pusat Statistik for urban and rural population ratios.

Persistently *rural* poverty

	1985	1988	1991	1994	1997	2000	2003	2006
<i>Incidence (% poor)</i>								
Philippines	46.4	39.5	38.0	35.5	29.6	31.3	31.1	33.0
Urban	27.8	19.8	23.7	20.6	13.7	14.5	14.7	17.2
Rural	58.1	51.5	52.3	50.3	44.1	47.4	46.8	48.5
<i>Contribution to poverty (%)</i>								
Urban	23.2	19.0	31.3	28.9	22.0	22.7	23.2	25.6
Rural	76.8	81.0	68.7	71.1	78.0	77.3	76.8	74.4

Rural areas contribute 3 of every 4 poor persons.

Agriculture & poverty



Declining importance of agriculture in national output & employment...

but agriculture continues to contribute the bulk of national poverty

Source: Author's estimates based on various years of NIA, LFS and FIES.

Moving out of rural poverty

- ⊕ **Agriculture is where most of the rural poor are *trapped*.**
- ⊕ **Pathways out of rural poverty: Search for drivers of rural poverty reduction, especially in view of new challenges (climate change, water scarcity, global supply chains, biofuels)**
- ⊕ **Recent past: agricultural growth driven by technological change – key driver of rural poverty reduction**
- ⊕ **Agricultural growth is no longer the key driver to *national* poverty reduction. Why?**

Poverty reduction in Philippine provinces (1)

- For the large majority of provinces, poverty has been accompanied by higher growth rates in non-ag. income than in ag. Income.

FIES 1991-2006

(# of provinces)	Δ ag income > Δ non-ag income	Δ ag income < Δ non-ag income
Poverty reduction	4*	58
Poverty increase	3	8

Poverty reduction in Philippine provinces (2)

- Reduction in the rural poor (and non-poor) who are dependent on agriculture
- Substantial increases in the non-poor (both rural and urban) who are dependent on non-agricultural incomes

FIES 1991-2003

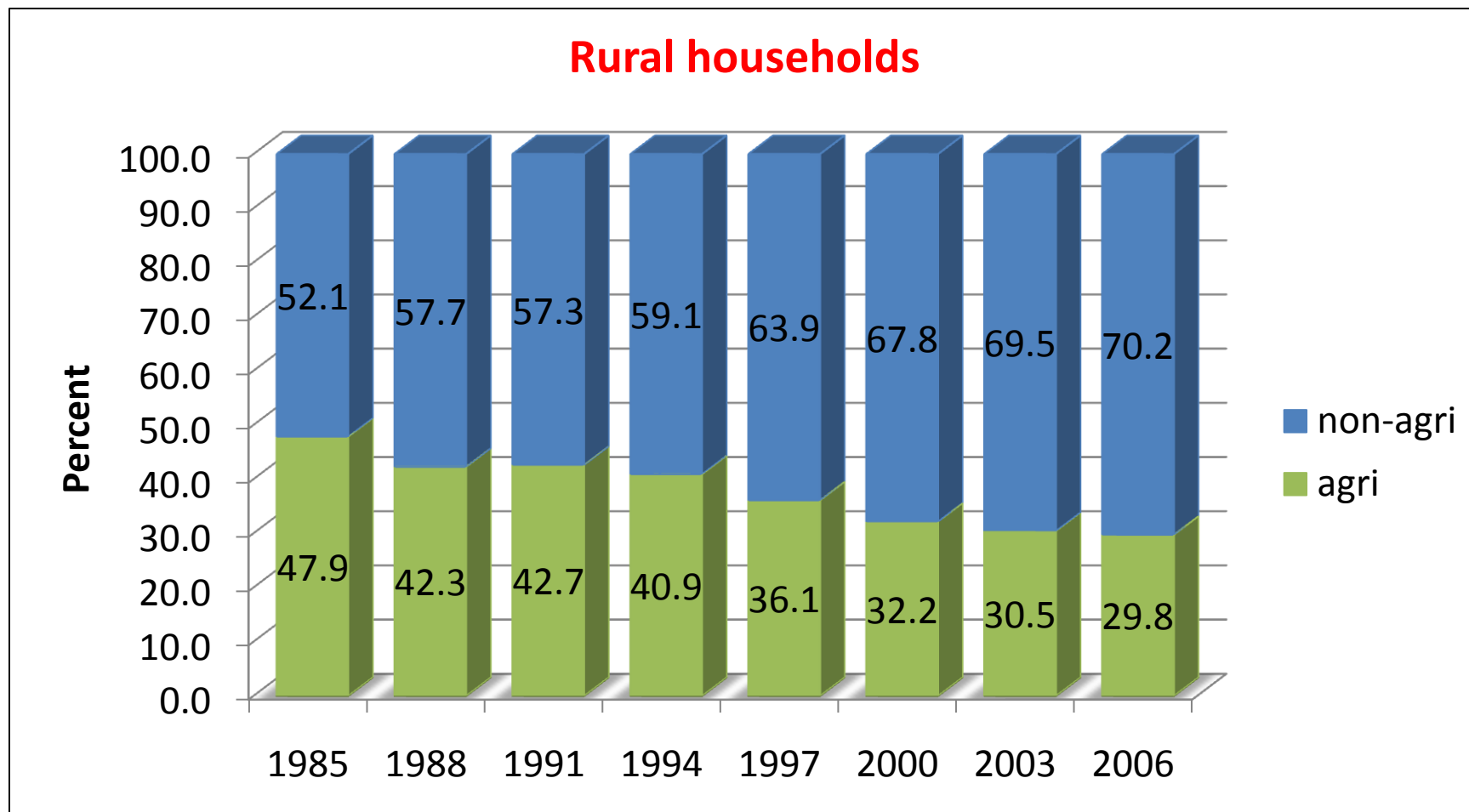
		Rural		Urban	
		non-ag. income < ag. income	non-ag. income > ag. income	non-ag. income < ag. income	non-ag. income > ag. income
poverty status	non-poor	-8.96	+19.61	-5.96	+14.35
	poor	-11.69	+1.04	-5.27	-3.12

- ⊕ For the large majority of provinces, non-ag. income growth has been the main engine for poverty reduction.
- ⊕ But relative response of poverty to sectoral growth varies significantly across provinces.

Agricultural growth is no longer the key driver of national poverty reduction

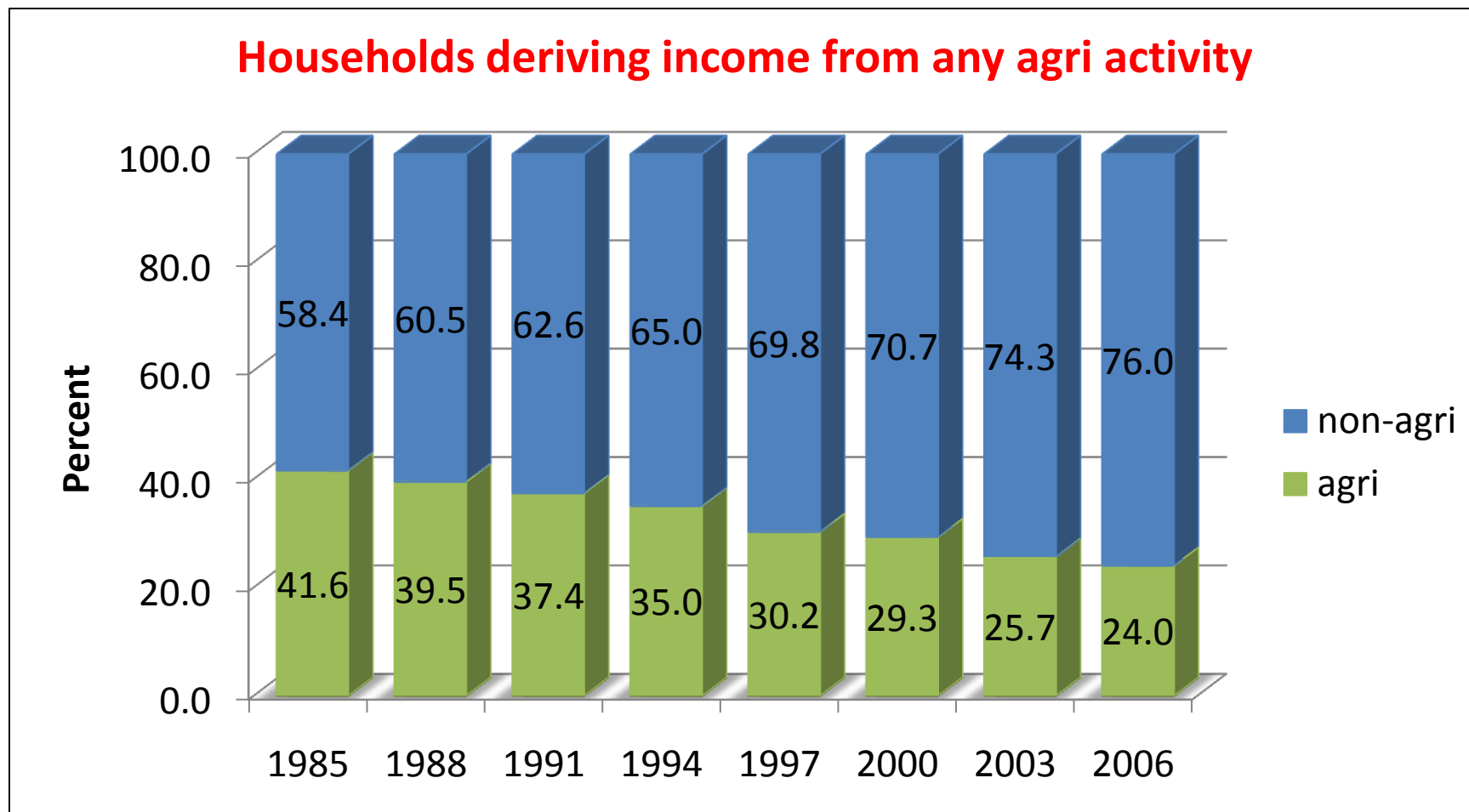
- ⊕ Relatively low (and declining) share of farm incomes in rural areas, even among agricultural households.
- ⊕ Future sources of sustainable growth in agriculture will likely come from labor/land-saving technological change (biotechnology, global supply chains, etc.)

Shares of agricultural and non-agricultural incomes in household incomes



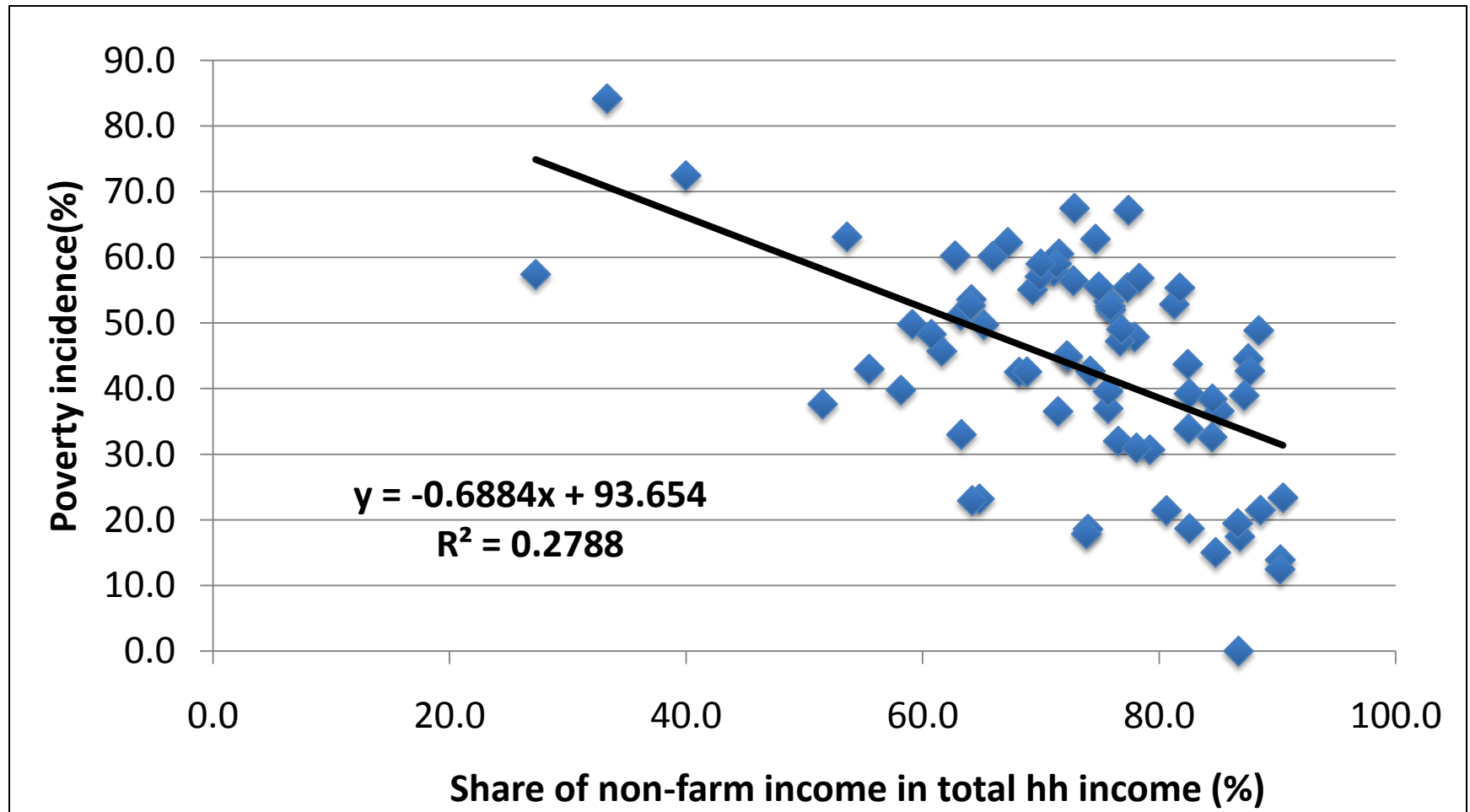
Source: Own estimates based on various FIES years.

Shares of agricultural and non-agricultural incomes in household incomes



Source: Own estimates based on various FIES years.

Poverty among HHs deriving incomes from agri activity*



*Data pertain to provinces in 2006.

Source: Own estimates based on various FIES years.

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Agricultural growth rates in East Asia (%)

Country	1980-2000	2000-2008
East Asia	4.13	3.88
Indonesia	3.04	3.28
Philippines	1.65	3.86
Thailand	2.80	3.27
Vietnam	3.74	3.92
China	4.71	4.03

Source: World Development Indicators

The country is not suffering from lack of (or low) agricultural growth in recent years!

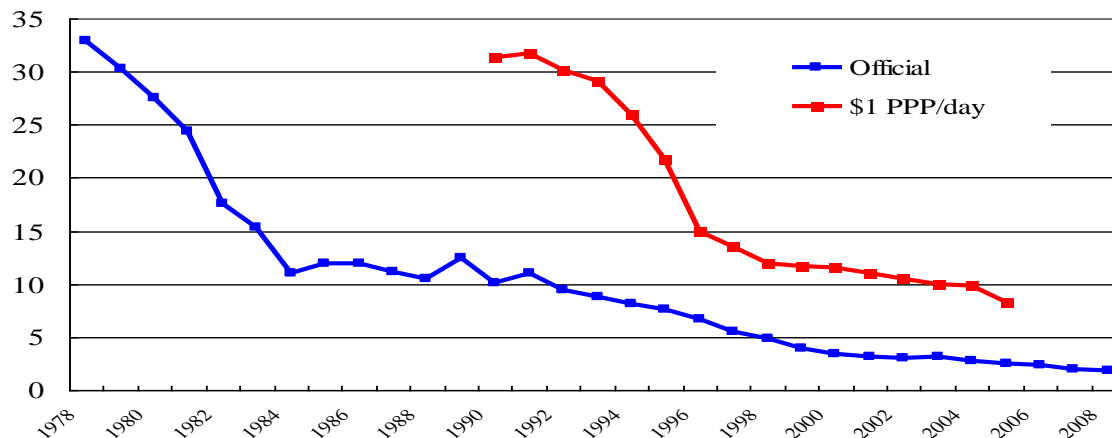
Off-farm employment & rural poverty reduction in China

Table 12. Off-farm employment participation by members of the rural labor force by age cohorts in China, 1990 to 2007

Age cohorts	Percentage with off-farm work in:		
	1990 (from de Brauw et al. 2002)	2004 (from Zhang et al. 2008)	2007 (from Zhang et al. 2008)
16-20	23.7	78.6	93.1
21-25	33.6	82.8	87.5
26-30	28.8	71.0	76.4
31-35	26.9	65.1	67.2
36-40	20.5	54.0	65.7
41-50	20.8	44.0	54.1

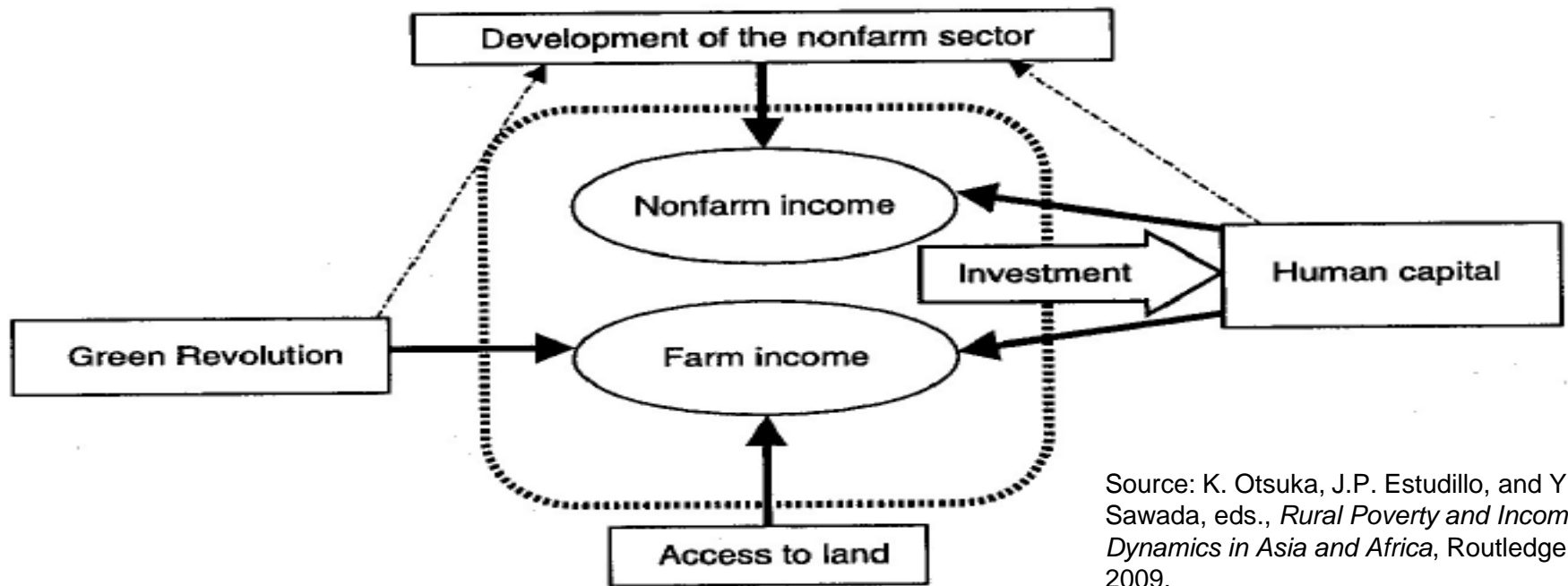
Source: Huang and Rozelle (2010)

Poverty incidence (%) in rural China, 1978-2008



Pathway out of rural poverty: Lessons from Asia's leading performers in poverty reduction

The Green Revolution story (1960s to 1990s)



Source: K. Otsuka, J.P. Estudillo, and Y. Sawada, eds., *Rural Poverty and Income Dynamics in Asia and Africa*, Routledge, 2009.

GR → higher farm income → larger **investments in schooling** of children → supply of educated labor force to the nonfarm sector → higher income of children, poverty reduction & further development of the nonfarm sector.

What policy levers can sharpen the response of poverty reduction to sectoral growth?

Initial conditions affecting the sectoral growth elasticity of poverty reduction
(Provincial panel data, 1991-2006; fixed effects model)
Dependent variable = $\ln(\text{Provincial poverty}_{it})$

Variable	Coeff	Std Err
Ln(non-ag Y per capita)	-1.670***	0.358
Ln(agri Y per hectare)	-0.230***	0.083
Time trend (year)	-0.010***	0.003
<i>Ln (non-ag income) interacted w/ initial conditions of 1991</i>		
OFW share	-0.501***	0.116
Malnutrition	6.309***	2.122
Road density	-0.372***	0.134
Income inequality	1.877**	0.846
<i>Ln (ag income) interacted w/ initial conditions of 1991</i>		
Irrigation potential	-0.674**	0.312
Rice yield	-0.289**	0.075
<u>_constant</u>	<u>27.745***</u>	<u>6.324</u>
Number of obs.	402	
R-squared	0.550	
F-test (all coefficients zero)	39.116	

Note: Other provincial fixed effects that are not statistically significant are not shown. These variables include local political characteristics, urban-rural disparity, and schooling of household head.

Source: Fuwa, Balisacan, and Bresciani (2009)

- The response of poverty reduction to **non-agri growth** is influenced by initial levels of
 - Income inequality
 - Human capital
 - Infrastructure development
- The response to **agri growth** is higher in areas where
 - Agricultural productivity potential, based on geo-physical endowment, is high
 - Low level of urbanization

Reforming policy & investment in agriculture to enhance inclusive rural growth

- ⊕ Food (rice) self-sufficiency: very costly, at the expense of market efficiency, employment creation, and rural income diversification
- ⊕ Agricultural land market & land use policy: CARP (CARPer)
- ⊕ Investment in basic rural infrastructure & agri technology options: low by Asian standard (esp East Asian standard)

Conclusion

- ⊕ Increasingly, non-agricultural income growth has been the main engine for poverty reduction in recent years.
- ⊕ Agricultural development remains to have high potential as driver of rural poverty reduction in:
 - *Areas with high agricultural productivity potentials (based on geo-physical endowments)*
 - *Relatively ‘more rural’ (remote, less commercialized) areas*
- ⊕ Policy reform in agriculture—long overdue.

Thank you!
Salamat!