

The Chinese policy challenge of making farming and cotton growing economically more attractive

For emerging countries, and for developing countries as well at a lesser extent, the economic transition is attracting farmers out of agriculture. Farming population is getting reduced, following the trend that developed countries has known and where farming populations represent a few per cents of total labour.

Although farming populations in emerging and developing countries are still very far from the above figure, governments are showing concern to the threat of missing farmers. In China, this concern is translated into the political question of "who will farm tomorrow in China" for several years and a new policy has been recently set up on an experimental basis.

To people involved in cotton business, China is well known for ranking first in production, in consumption and in imports. China is clearly price-maker in the cotton market. From the agronomic perspective, it is worth emphasizing that China has overcome the challenge of feeding and clothing 18.6% of world population while accounting only for 7.0% of world arable land.

Productivity has been key in the above-mentioned status of China; it was the outcome of long term investment in research and in support to technology application by producers, although undesired effects have been observed. In cotton cultivation, plant growth regulation has been systematic for more than two decades; hybrids have been commercially launched in late 1980s and extensively adopted since then; a specific transplanting technique is generalized in cotton provinces of Yangtze River Valley because it enables to grow cotton after winter cereal, making China one of the rare countries where cotton crop is integrated into a double-cropping scheme. In the area of biotechnologies, Chinese researchers have carried out its particular technique of gene transfer through pollen tube in early 1990s; they are handling today a large portfolio of genes, albeit its composition is hard to capture from external observers. However, the efficiency of the over and unbalanced fertilizing could be questioned, with negative implications in economic and environmental terms. Besides, the cotton seed market has become so much messy that producers are paying high prices without certainty of getting quality seeds of the expected varieties.

In China, owing to the vibrant two digits economic growth for almost three decades, agriculture is relatively declining because becoming less and less economically attractive. Its annual growth has been less than 5.0%, although much higher than the population growth rate of less than 0.6% since year 2000. In 2010, agriculture accounted only for 10% of GDP, 37% in employment, and for the first time, there were less people living in rural areas than in cities. The income gap between urban and rural labor has continuously widened since China has committed itself in market economy: in 2011, the income ratio was 3.6.

With reference to the tiny farm size (0.4 ha on average) and to the rates of durable consumer goods (e.g. 63% of rural households possessing washing machines), the fate of Chinese farmers is much better than the one encountered in many emerging and developing countries,

but this is the outcome of large scale of commitment in off-farm activities. Men in farms were firstly involved, later on their sons to the extent that agriculture is getting aging and feminized. Their daughters are now catching up in committing in off-farm activities. Because cotton growing is more demanding in terms of labour and cash flow –while labour cost has substantially increased– the phenomenon of moving out agriculture could be exacerbated in the concerned areas. Our surveys in Hebei province, a traditional cotton producing province, show that farmers' children are seldom involved in farming activities, hence raising the issue of who would take over farming in the next future.

The concern of maintaining some rate of farming people in China –although what this rate should be is not yet clarified, to my knowledge–, asks for reversing the trend of income disadvantage to farmers and more globally for restructuring the agricultural sector; but such a process will need time because several particular and structural features could only evolve gradually. One major feature is related to the residential registration scheme –or "Hukou"– which distributes Chinese people between urban and rural status according to their places of birth, if not the birth places of their parents. A Chinese citizen can seldom shift from one status to the other, notably from rural to urban. Consequently, most rural people migrating more or less temporarily to cities cannot enjoy welfare schemes there –while these schemes are usually missing in their rural hometowns. A second major feature results from the public ownership of land through which only land use right has been allocated to farming families (for 30 years) including to those which have actually given up farming and which are renting out land informally. Dramatic changes have already taken place, but a lot remain: primary and secondary school has been made free in rural areas since 2006; all taxes on farming have been waived in 2007; and in November 2013, for the first time, [the revision of the "Hukou" system](#) has been mentioned at the highest political level. The issues of upgrading health care and setting up a pension scheme for farmers are still overlooked.

The Chinese government has started coping with the issue of "who will farm in China" in 2007. In 2012, it introduced the concept of rural and city integration through a "blue book" which has been updated in 2013. In short, this concept points out that development in rural communities and cities does not imply similar economic model. More specifically, such model in rural areas should take jointly agriculture, farmers and rural communities into account.

In the framework of this integration concept, China has launched an experimental program of "family farmers". The introduction I made in an open session at the last 72nd ICAC Plenary session is [available](#), as well as the [analysis by one panelist](#) which gave some international perspective from the Chinese case.

Similar programs might be conducted elsewhere; all cotton producing countries would benefit from getting informed of.

72nd Plenary Session
International Cotton Advisory Committee
29/09-04/10/2013 Cartagena, Colombia

Third Open session: Cultivating a new crop of entrepreneurs

Promoting a new generation of farming entrepreneurs

Overview of the Chinese case



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Commendable achievements

- 7.0% of world arable land for 18.6% of world population
- Famines belong to the past
- Strong position in cotton production
- Factors
 - Policy changes
 - Investment in ag research
 - Several China-specific technologies
 - Investment in irrigation (albeit some disruption)
 - High intensity of fertilizer use

Relative "decline" of agriculture

Average annual growth (%)

	1985-95	2001-05	2006-10
GDP	9.70	9.90	11.10
Agriculture	4.00	4.30	4.50
Population	1.37	0.63	0.50

Share (%)

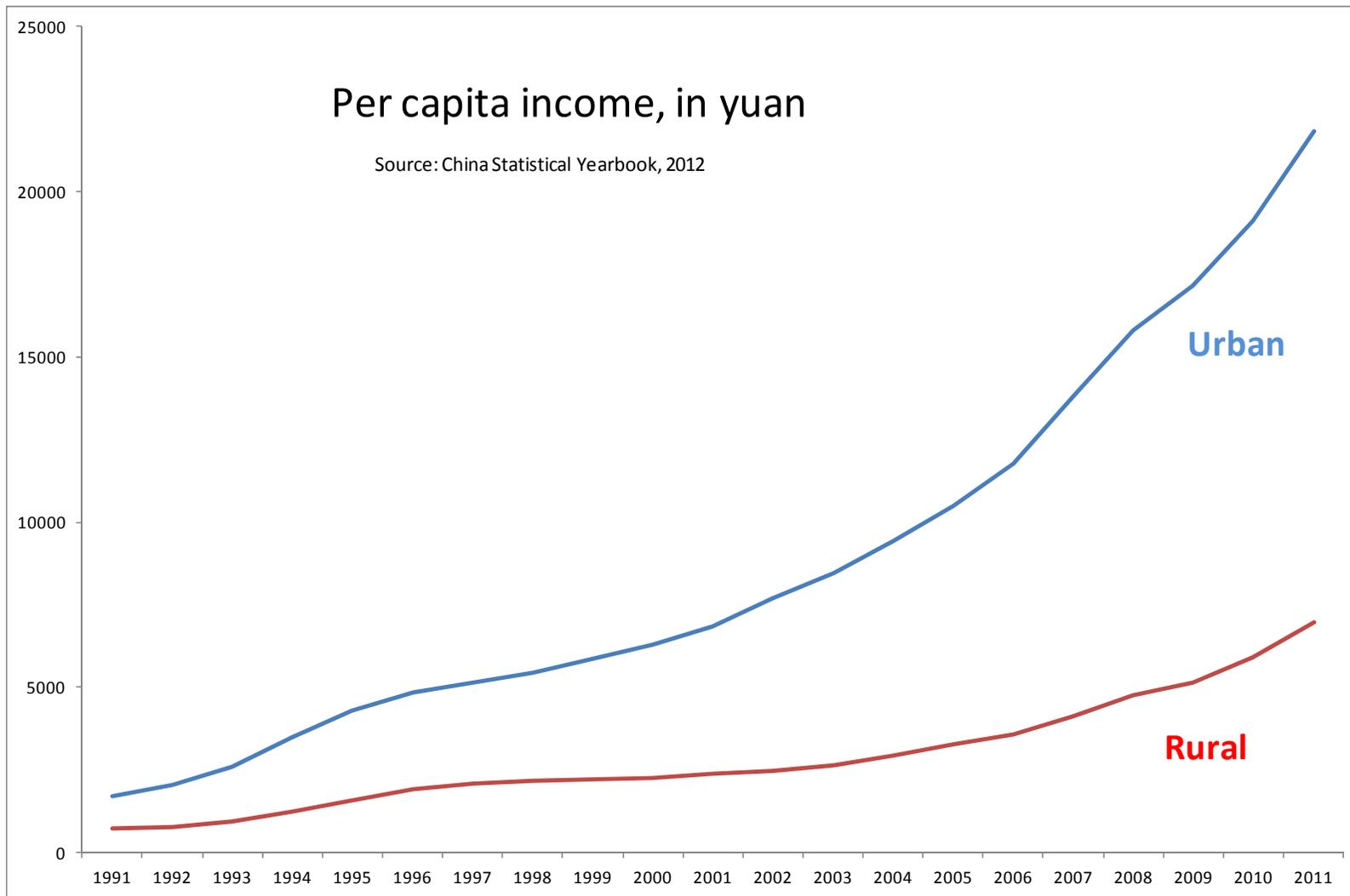
	1990	2000	2010
Agriculture in GDP	27	15	10
Ag. In Employment	60	50	37
Rural Population	74	64	50

Fluctuation of agricultural growth indicative of policy changes

Average annual growth (%)

	1979-84	1985-95	1996-00	2001-05	2006-10
Agriculture	7.1	4.0	3.4	4.3	4.5
Grain production	4.7	1.7	-0.7	1.1	2.5
Rice	4.5	0.6	0.4	-0.8	1.9
Wheat	8.3	1.9	-0.6	-0.4	3.0
Maize	3.7	4.7	-1.3	5.6	4.4
Cotton production	19.3	-0.3	-1.9	5.3	-0.9

Being a farmer: not such a privilege



Some features of the farmer status

- "Hukou": residential registration
 - rural vs urban
 - Hard to shift from rural to urban
- Land use right allocated to farming families
 - For 30 years
- Unfavorable access to public services for "rurals" (e.g. health care); no pension scheme
- ...with some recent corrections
 - Free 9-year education in rural areas (since 2006)
 - 2007: no more taxes by farmers

Farmers' families have got wealthier...

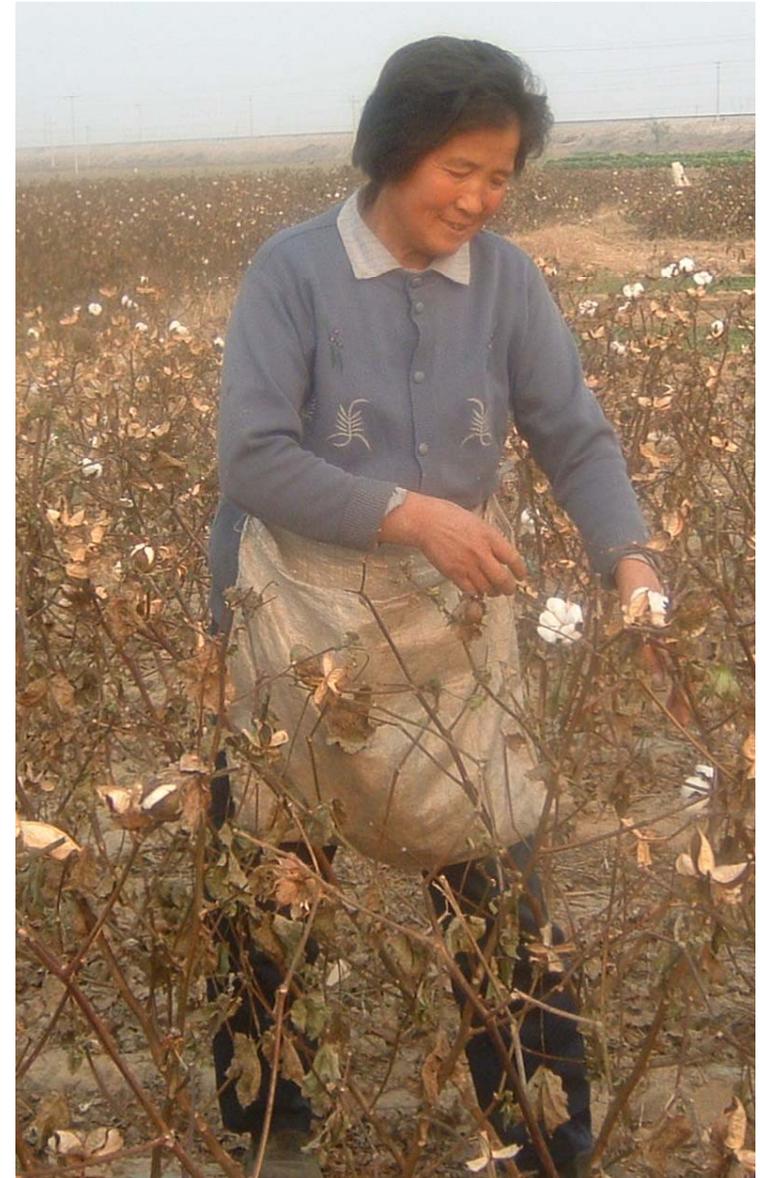


Durable consumer goods (Number per 100 rural household)

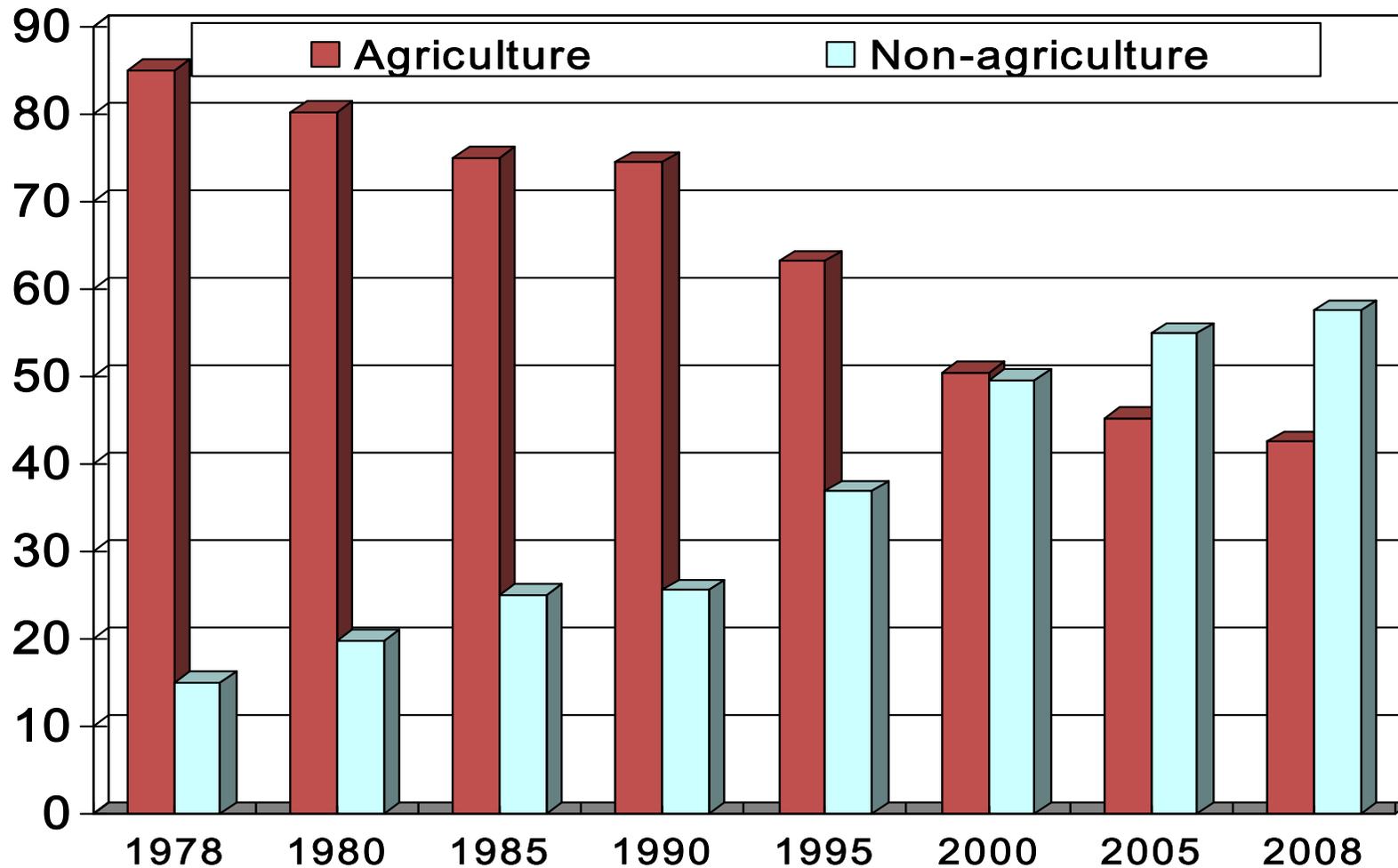
Washing Machine	63
Refrigerator	62
Air Conditioner	23
Exhaust Fan	13
Bicycle	77
Motorcycle	61
Telephone	43
Mobile Telephone	180
Black and White TV Set	2
Color TV Set	115
Camera	5
Computer	18

...thanks in part to off-farm activities

- ...due to very small farm size
 - 0.4 - 0.7 ha
- ...providing diversified sources of income
- Implying Part-time farming
 - Not all family members are permanently involved
- And aging and feminized agriculture
- ...till frequent cases of abandon of farming
 - Land available to others

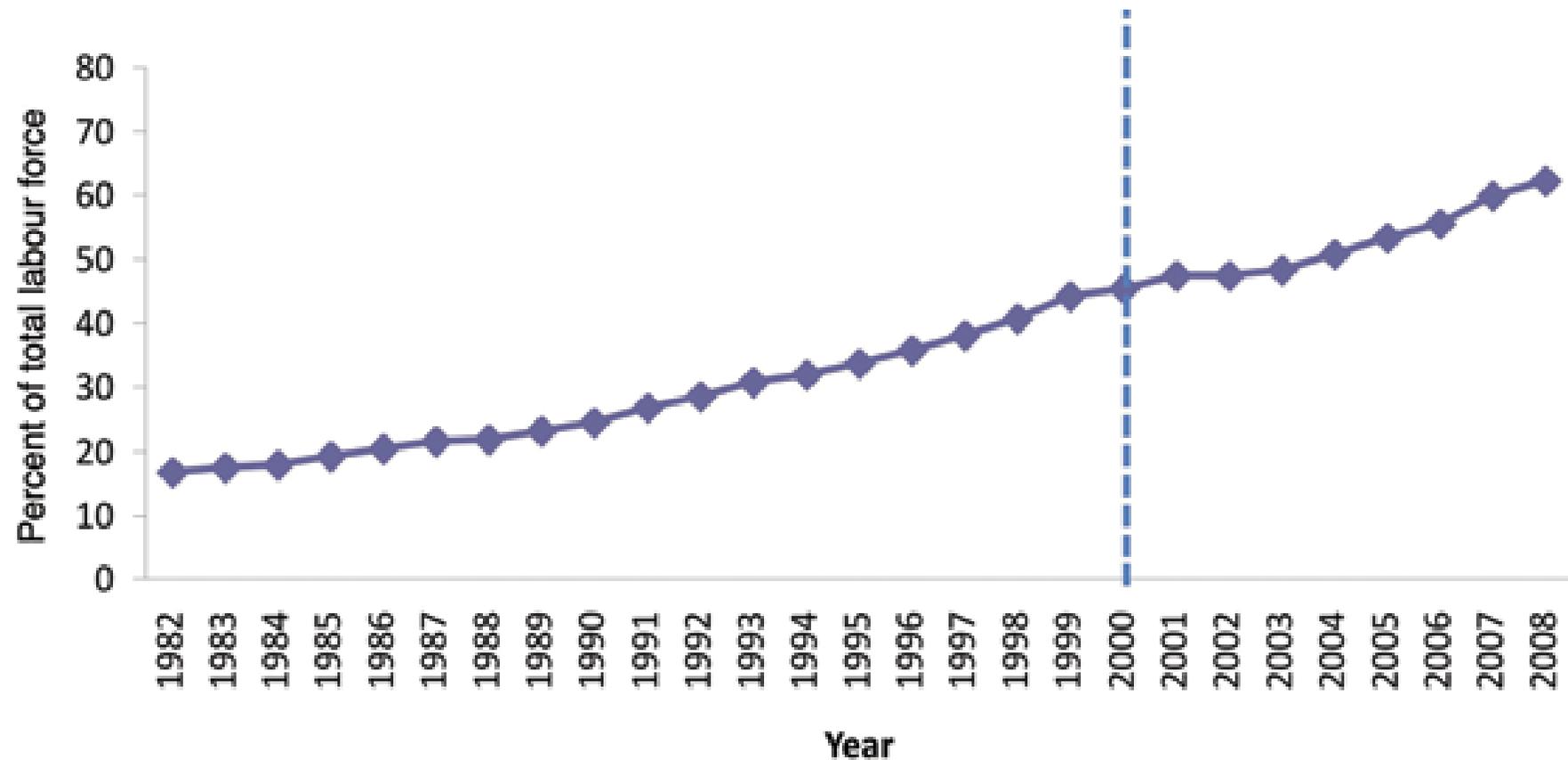


Sources of farmers' income (%)



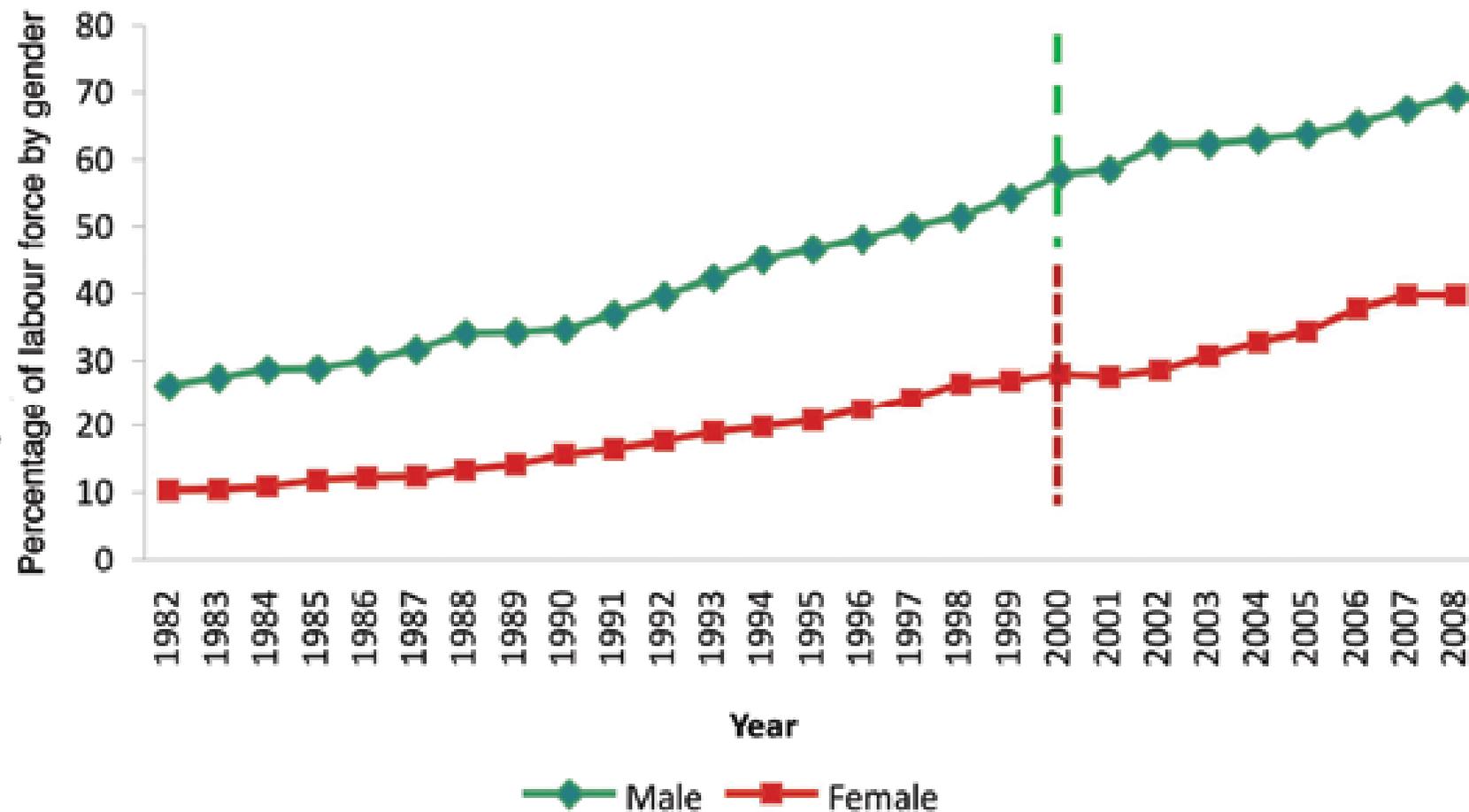
Source: Huang J. et al, 2012 http://www.sow.vu.nl/pdf/AgDevCh_EUMay27_JH.pdf

Increasing trend of rural labour force's involvement in off-farm activities



Source: Huang J. et al, 2012 http://www.sow.vu.nl/pdf/AgDevCh_EUMay27_JH.pdf

Involvement in off-farm activities: females are catching up



Source: Huang J. et al, 2012 http://www.sow.vu.nl/pdf/AgDevCh_EUMay27_JH.pdf

Matter for concern: no interest of youngsters for farming

Age cohort of farm heads	% farms
16-25	1.3
26-35	11.2
36-45	35.1
46-55	38.7
>55	13.7

Participation to field work	%
Sons	8.8
Daughters	6.8

Source: surveys on cotton farms, 2006-2009, Hebei province

Anxiety about the future of farming

A big cereal producer claims that, for sure, he would not let his son farming

中国新闻网 首页 → 新闻中心 → 社会新闻

字号：

种粮大户年利润40万 称以后肯定不让儿子种田



Who will farm in the future ?

Greatest risk for abandoning cotton growing?

- Great sensitivity to price fluctuations
- Greater sensitivity to price fall than to price increase
- Greater sensitivity to the labour cost
 - Which has increased a lot the last years

Political concern

- 2007: debate on "who will farm in China"
- 2008: Notion of "3 Nong"
 - Agriculture, farmers, rural communities
- 2012: Edition of the blue book on rural & city integration
- Central government "Policy N°1 documents"
 - 2012: notion of "professional farmers"
 - 2013: notion of "Family farmers"

Blue book of urban and rural integration

- Urbanisation
 - not as high as possible nor as quick as possible
- Challenge of food shortages with less land, less water and less farmers
- Preserve local culture and heritage in rural areas
- Integration does not imply similar model of development in rural communities and cities

Actions retained

- Support the land use by those most committed in farming
- Promotion of cooperative
- Promotion of mechanisation
- A new generation of farmers through adjusted training
 - Educated
 - Technology commanding
 - Management skillful

Enhancement of farmers' training

- Budget Increase in 11th Five-year Plan
 - Allocation to Ag Department: 5.6 billions yuan (US\$ 0.9 billion)
 - Adjustment of the training system
 - Enhancement of ag TV
 - ...
 - New : special vocational training program to secondary school graduates for farming
- Various experiences engaged since 2012
 - Lot of analysis by scientists

Program of "family farmers"

- From late 2012
- New status conditional to application and authorization
- ...for land security and financial advantages

Imposed conditions for the status of "family farmer"

- Farmers must submit application
- Family labour must be the main labour source
 - Applicants must farm permanently
 - Extra labour hiring: only occasionally
- Production program in compliance with local political objectives
 - Not grow whatever you want
- Commitment to cultivation and management standards
- Compliance to an evaluation process
 - Evaluation result: conditional to the payment of subsidies
 - Amount may depend on localities
 - Average: 200 yuan/mu (US\$ 480/ha)

Major advantages

- Security in land use right
 - Land rented in is secured for 5 years, through a contract officially validated
- Direct payment subsidy
- Subsidy in farm production machineries
 - Up to 70% of the equipment value
 - Local subsidy for fuel

Experiences under light

财经 > 新闻 > 地方经济 > 正文

字号：大 中 小

上海试验家庭农场：场主夫妇人均收入已超公务员

Shanghai experiences "family farming": average individual income of the farming couple exceeds that of civil servant

 **sina** 新闻中心

家庭农场：180亩地一年净赚20万

Family farming: annual net income of 200,000 Yuan (US\$ 32,000) from 12 hectares

Distance still lacks

- Very recent experience
- Number of "family farms": unknown
 - 2013 : around 162 farms in a county close to Shanghai
- Most experiences reported pertain to cereals as main production
 - Cotton not/less eligible?
- Income comparison
 - In 2012
 - Average farmer's income : 18,000 yuan
 - Average family farmer: 30000 yuan

Cases of family farming of cotton?

Yes, kind of, but at limited extent

Farm types	Traditional	Specialized	Small entrepreneur	Big entrepreneur
Land rented in, ha	<0.33	0.33-1.00	1.00-6.67	>6.67
Nombre de farms, %	88.3	7.7	3.1	1.0
Total cultivated land, ha	0.66	1.18	2.36	16.76
Own land, ha	0.63	0.59	0.70	0.46
Cotton area, ha	0.39	0.75	1.79	15.04
Cotton/total land, %	58.9	63.2	75.9	89.7

Out of 1561 farms surveyed between 2010 and 2012, Hebei province

Viability conditions

- Net Income must be at least double than from wages
- ...implying that the farm size be above 12 ha
 - Size range: 12-14 ha
- Mechanization is key
- Various sources of income
 - Cropping
 - Husbandry
 - Service provision for mechanized operations
 - Possible subsidies by government

Sustainability depends on local funding

- Low contribution from central government :
 - Only 14% of the total subsidies
- Viability mainly depend on the wealth of local authorities
 - Not repeatable everywhere
- Subsidies: contribution to 3/5 of farm income
 - Without subsidies, monthly income down to 1500 yuan, not worthy at all

Sustainability depends on addressing additional issues

- How long will last the current support?
- The farming mode promoted implies high financial cost
- Uncertainty remains about the security of land use right
 - What will happen after 5 years?
- Points missed
 - No correction of the residential registration system
 - No change of the welfare system to improve farmers' social status (health, pension...)

A new program to be followed up

- Program under experiment
 - Adjustment very likely
- WYSINEWIP
 - What you'll see is not exactly what I've presented

Thank you for your attention

