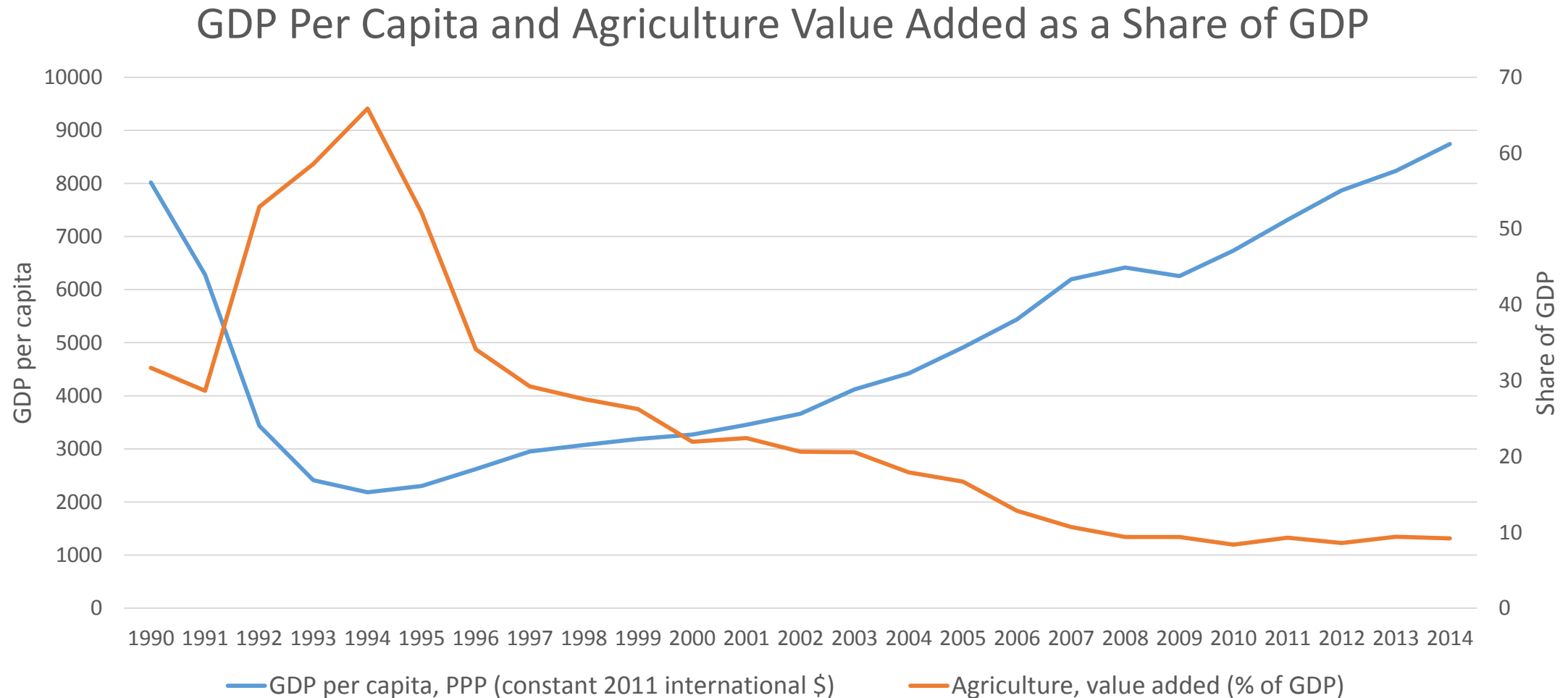


Stalled Structural Transformation and missing labor market opportunities in rural Georgia

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Agriculture in Georgia since the beginning of transition



Source: WDI data

Agriculture in the first part of transition (1991-2003)

- Land reform - individualization (started 1992)
- Substantial increase in the share of agricultural employment (from less than 30 to about 50%)
- Contained fall in agricultural production and slow recovery of productivity
- Limited signs of land consolidation and limited work opportunities in the rural labor market by the end of the period

Georgian agricultural sector at the time of the Rose Revolution: landholding structure

| | All holdings | Households | Share of households (%) | Average ha per landholding |
|-----------------------------------|---------------|---------------|-------------------------|----------------------------|
| Adjara AR | 44757 | 44667 | 99.8 | 0.56 |
| Imereti | 125888 | 125710 | 99.9 | 0.69 |
| Guria | 34918 | 34827 | 99.7 | 0.85 |
| Racha-Lechkhumi and Kvemo Svaneti | 14460 | 14425 | 99.8 | 0.9 |
| Samegrelo-Zemo Svaneti | 85285 | 85099 | 99.8 | 0.9 |
| Shida Kartli | 68326 | 68094 | 99.7 | 0.97 |
| Mtskheta-Mtianeti | 31773 | 31602 | 99.5 | 1.08 |
| Georgia - total | 642209 | 639963 | 99.7 | 1.22 |
| Kvemo Kartli | 73392 | 72936 | 99.4 | 1.43 |
| Kakheti | 97106 | 96600 | 99.5 | 2.21 |
| Samtskhe-Javahketi | 35986 | 35893 | 99.7 | 2.32 |

Source: calculations based on GEOSTAT 2004 Agricultural Census

Georgian agricultural sector at the time of the Rose Revolution: employment

| Employment Status | Composition of rural Labor Force (%) | Composition of urban Labor Force (%) |
|---------------------------|---------------------------------------------|---------------------------------------------|
| Employed | 10.58 | 26.74 |
| Self-Employed non farmers | 4.64 | 8.92 |
| Self-Empl farmers | 23.09 | 2.86 |
| Unpaid workers | 27.31 | 2.67 |
| Unemployed | 2.47 | 8.39 |
| Discouraged | 0.59 | 1.88 |
| OLF | 31.34 | 48.54 |

Source: calculations based on GEOSTAT HH survey, 2003

Expectations and recommendations after the first part of transition

- Next phase of land reform (land consolidation)
- Efforts to remove existing constraints:
 - Reduce the (high) administrative burden of land transactions
 - Improve access to credit markets
 - Land registration
- Goals:
 - Shift to more productive and less labor-intensive agriculture
 - Encourage the development of rural areas

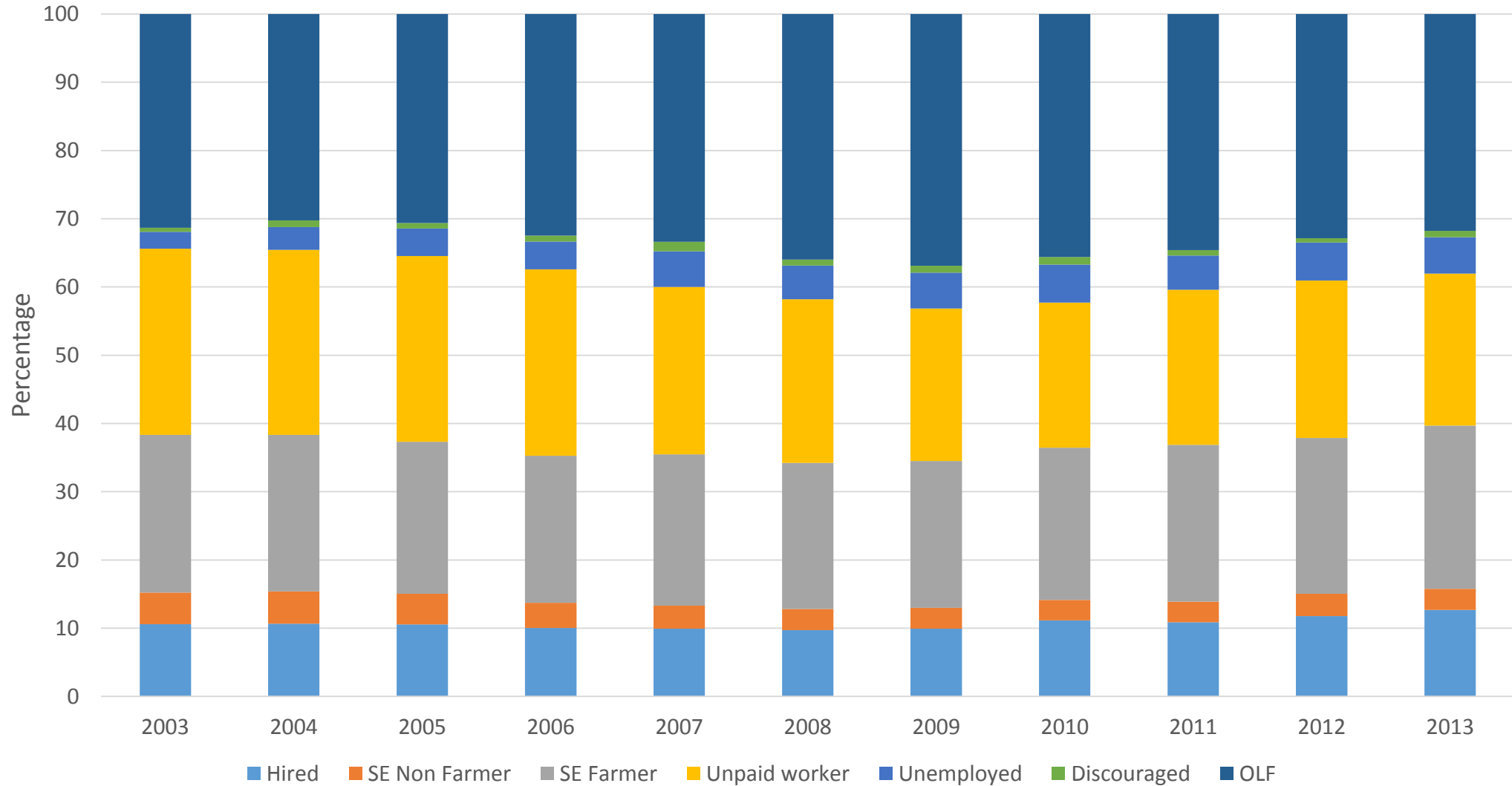
Policy changes since 2003

- Reforms of general interest:
 - labor code
 - Taxation
 - Efficiency of public administration (including property registration)
- These reforms were accompanied (or followed) by specific policy initiatives to revitalize the economic activity in rural areas:
 - Second stage of land reform (privatization of leased public land)
 - Creation of public agricultural extension and advisory service centers
 - Provision of subsidized inputs (vouchers) and preferential agro-credit

Conventional wisdom right before the publication of the new Population and Agricultural Census

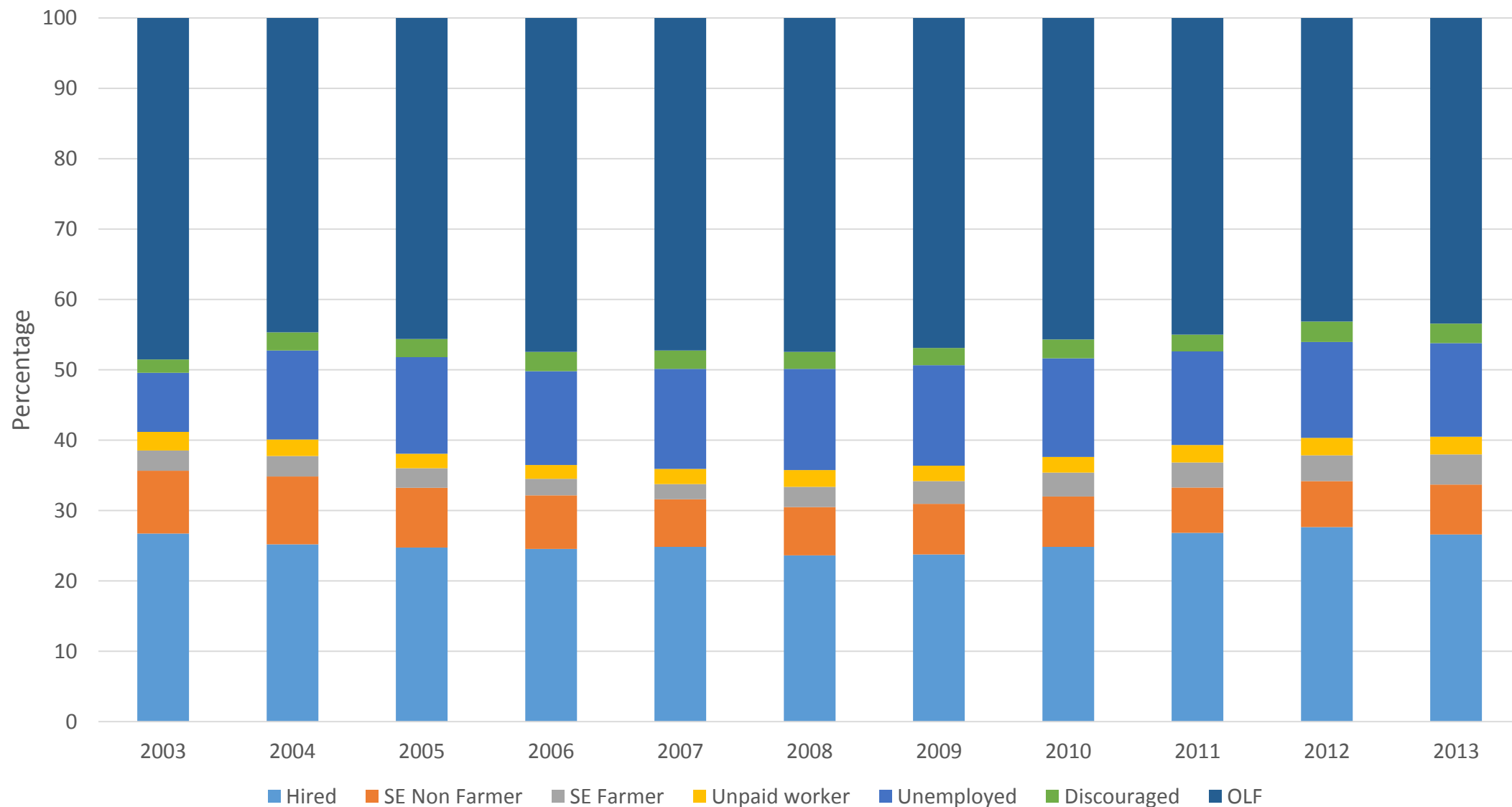
- Stable rural population
- Stable share of rural employment (in % of total employment)
- Rural workforce older and less educated
- Rural areas characterized by prevalence of subsistence agriculture and high number of self-employed in agriculture and unpaid family workers
- Stagnant productivity
- Land highly fragmented, with few exceptions

Shares of different labor market groups in rural areas 2003-2013



Source: calculations based on GEOSTAT HH survey

Shares of different labor market states in urban areas 2003-2013



Source: calculations based on GEOSTAT HH survey

Age and education in urban and rural areas: 2003 and 2013

| | Rural | | Urban | |
|-------------------------|-------|------|-------|------|
| | 2003 | 2013 | 2003 | 2013 |
| Median age | 43 | 47 | 42 | 43 |
| Primary and less | 30.2 | 22.9 | 17.3 | 11.3 |
| Secondary | 56.7 | 62.8 | 50.4 | 50.8 |
| Higher | 13.1 | 14.3 | 32.3 | 37.9 |

Source: calculations based on GEOSTAT HH survey

Recent surprises: “missing” population

| Rural and urban employment over the period 2003-2013 | | | | |
|------------------------------------------------------|-------|-------|---------------------|---------------------------------------|
| | Rural | Urban | Rural as % of Total | Employed in rural areas as % of Total |
| 2003 | 2076 | 2267 | 47.8 | 63.7 |
| 2004 | 2063 | 2253 | 47.8 | 63.7 |
| 2005 | 2064 | 2254 | 47.8 | 64.5 |
| 2006 | 2091 | 2311 | 47.5 | 64.8 |
| 2007 | 2086 | 2306 | 47.5 | 62.5 |
| 2008 | 2078 | 2306 | 47.4 | 63.2 |
| 2009 | 2076 | 2313 | 47.3 | 63.2 |
| 2010 | 2086 | 2352 | 47 | 62.1 |
| 2011 | 2098 | 2375 | 46.9 | 62.9 |
| 2012 | 2106 | 2394 | 46.8 | 63.8 |
| 2013 | 2073 | 2414 | 46.2 | 63.1 |
| 2014 | 2079 | 2411 | 46.3 | 63.1 |

* Based on 2014 preliminary census data

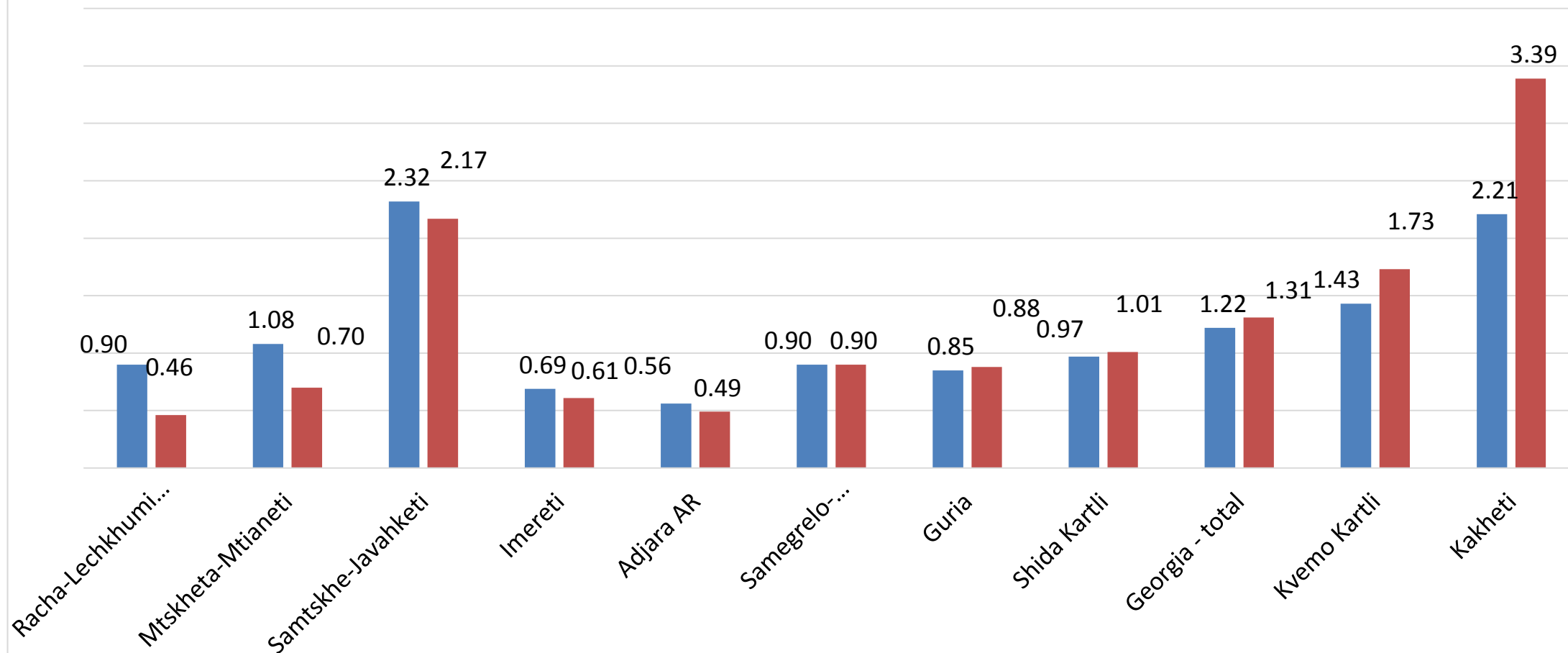
Recent surprises: “missing” land

| | All holdings | Households | Legal entities |
|------|----------------------------|-------------------|-----------------------|
| 2004 | 729542 | 728247 | 1295 |
| | | 99.82% | 0.18% |
| 2014 | 642209 | 639963 | 2246 |
| | | 99.65% | 0.35% |
| | Total operated land | Owned | Rented |
| 2004 | 886766 | 578281 | 308484 |
| | | 65.21% | 34.79% |
| 2014 | 842289 | 734825 | 107464 |
| | | 87.24% | 12.76% |

Data source: 2014 preliminary census data

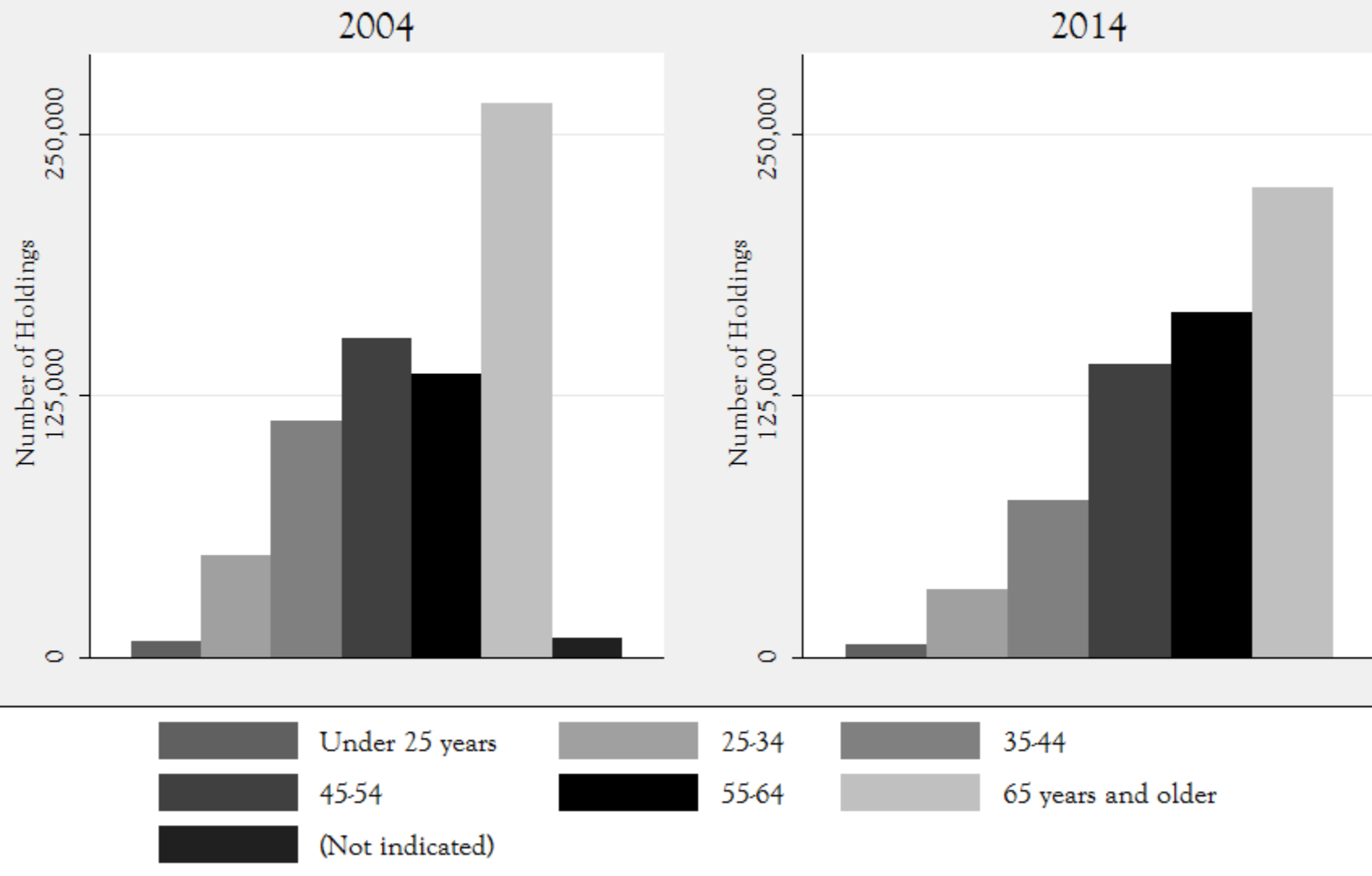
Hectares of land per holding: 2004 and 2014

■ 2004 ■ 2014



Source: 2014 preliminary census data

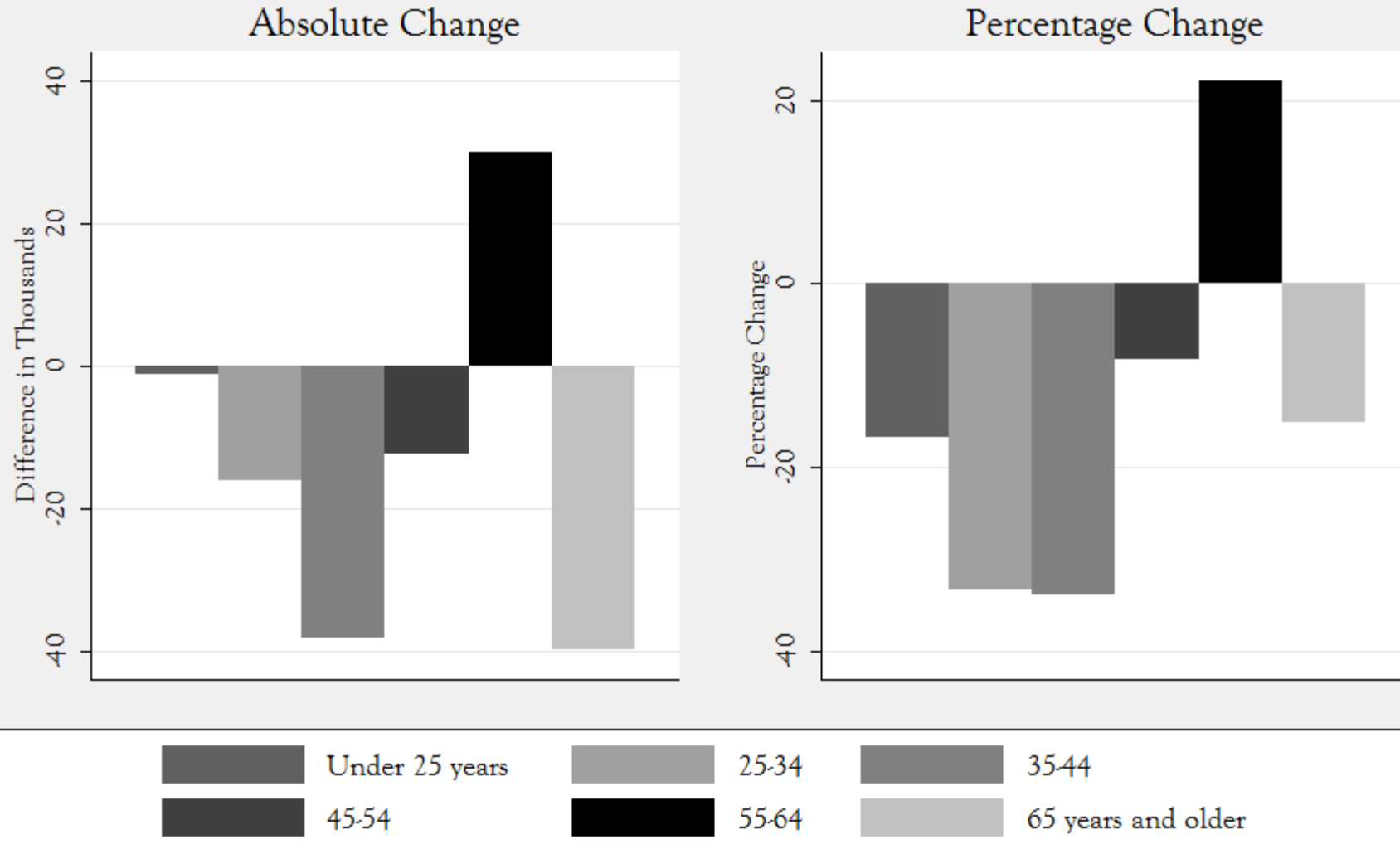
Land Holdings by Age in Georgia



Data source: National Statistics Office of Georgia

Land Holdings by Age in Georgia

Absolute Change and Percentage Change from 2004 to 2014 by Age



Data source: National Statistics Office of Georgia

Multinomial logit regressions – determinants of labor market status in rural areas: years 2003 and 2013

| | | | 2003 | | | |
|------------------|-------------|-----------|---------------|------------|-------------|-----------|
| | SE Not Farm | SE Farmer | Unpaid worker | Unemployed | Discouraged | OLF |
| Age 15-24 | 0.434 | -0.524 | 1.415 | 2.109 | 2.224 | 2.909 |
| | -0.329 | -0.287 | (0.217)** | (0.266)** | (0.378)** | (0.216)** |
| Age 50-59 | 0.231 | 0.817 | -0.299 | -0.81 | -0.849 | -0.248 |
| | -0.217 | (0.148)** | (0.152)* | (0.351)* | -0.756 | -0.175 |
| Age 60+ | -0.063 | 1.729 | 0.375 | -0.068 | -0.328 | 1.546 |
| | -0.254 | (0.143)** | (0.146)* | -0.287 | -0.649 | (0.150)** |
| Male | 0.607 | 0.679 | -0.963 | 0.09 | 0.198 | -0.931 |
| | (0.171)** | (0.115)** | (0.102)** | -0.181 | -0.338 | (0.107)** |
| Primary and less | -0.14 | 0.109 | 0.044 | -0.295 | -0.088 | 0.298 |
| | -0.223 | -0.146 | -0.147 | -0.248 | -0.373 | (0.149)* |
| Higher | -1.736 | -1.63 | -1.855 | -0.582 | -1.823 | -1.391 |
| | (0.263)** | (0.132)** | (0.139)** | (0.227)* | (0.611)** | (0.151)** |
| | | | 2013 | | | |
| Age 15-24 | -0.798 | -1.524 | 0.367 | 0.929 | 0.87 | 1.655 |
| | -0.413 | (0.285)** | -0.197 | (0.234)** | -0.473 | (0.178)** |
| Age 50-59 | -0.023 | 0.52 | -0.374 | -0.578 | -0.578 | -0.756 |
| | -0.214 | (0.133)** | (0.132)** | (0.216)** | -0.496 | (0.157)** |
| Age 60+ | -0.101 | 1.836 | 0.622 | -0.148 | -0.776 | 1.498 |
| | -0.324 | (0.155)** | (0.158)** | -0.251 | -0.773 | (0.152)** |
| Male | 1.07 | 0.672 | -1.017 | 0.488 | 0.712 | -0.88 |
| | (0.216)** | (0.117)** | (0.106)** | (0.156)** | -0.396 | (0.109)** |
| Primary and less | -0.169 | 0.538 | 0.346 | 0.035 | -1.261 | 0.882 |
| | -0.308 | (0.169)** | -0.18 | -0.243 | -0.777 | (0.160)** |
| Higher | -1.137 | -1.605 | -1.991 | -1.329 | -1.066 | -1.516 |
| | (0.229)** | (0.136)** | (0.153)** | (0.204)** | (0.436)* | (0.141)** |

Constraints faced by agricultural entrepreneurs

- Limited access to capital
- Difficulties in the acquisition and use of new technology
- Difficulties in finding and hiring workers during high season
- Difficulties in finding and hiring skilled specialists (e.g. agronomists and veterinaries)

Revised picture

- Workforce older and less educated. This is true also for the agricultural entrepreneurs (2/3 older than 50 and less than 12% with higher education)
- Rural areas characterized by the prevalence of subsistence agriculture and by a high number of self-employed in agriculture and unpaid family workers
- Large reduction of rural population due to migration, some possibly to urban areas but a large majority abroad
- Decreasing share of rural employment (in % of total employment)
- Higher than expected agricultural productivity
- Land highly fragmented and sometimes abandoned

Conclusions - 1

- Since the beginning of transition land ownership in Georgia has played a very important role in ensuring the livelihoods of the population in periods of hardship.
- This, on the other hand, coupled with other objective constraints such as limited access to capital and slow land registration has slowed down the process of structural transformation.
- Georgian land is still fragmented in a myriad of small landholdings, mostly owned by an aging population that devotes them to subsistence agriculture.
- At the same time the local and national labor markets fail to provide outside opportunities. This, according to the most recent census data, has resulted in a massive migration, mostly outside of the country.

Conclusion - 2

- So far most policy initiatives aimed at increasing agricultural productivity and revitalizing land and labor markets in rural areas (with some notable exceptions) have been ineffective
- The Georgian government is planning to continue investing in the development of rural areas. Among the forthcoming initiatives are listed an expansion of irrigation services and a policy to incentivize land registration.
- The success of these initiatives is not to be taken for granted.
- On the positive side, in a few areas change seems to be taking place and the hope is that one or more successful models will emerge and spread to the rest of the country.
- Our next step is to delve deeper in the new Census and the other available data to explore labor and land markets of those areas in greater detail.