"Echoes from the Soviet Past: bias in wheat production statistics in Kazakhstan"

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Pripiski phenomenon

Definition: “pripiski” – falsification of statistical figures.

- Common practice in Soviet Unions’ planned economy.
- Soviet functionaries competed for fulfilling and over-fulfilling of production plans for careers reasons and bonuses.

Evidence of pripiski:

(1) “Cotton case” – 800 cases related to pripiski and corruption in Uzbekistan in 1980s

(2) Belarus confirms massive pripiski in agriculture in 2013.

(3) North Kazakhstan oblast officially finished 2015 sowing campaign. In reality farmers continue sowing.

Widespread in Soviet system, pripiski made significant contribution into economy inefficiency, which led to crisis and collapse of USSR.

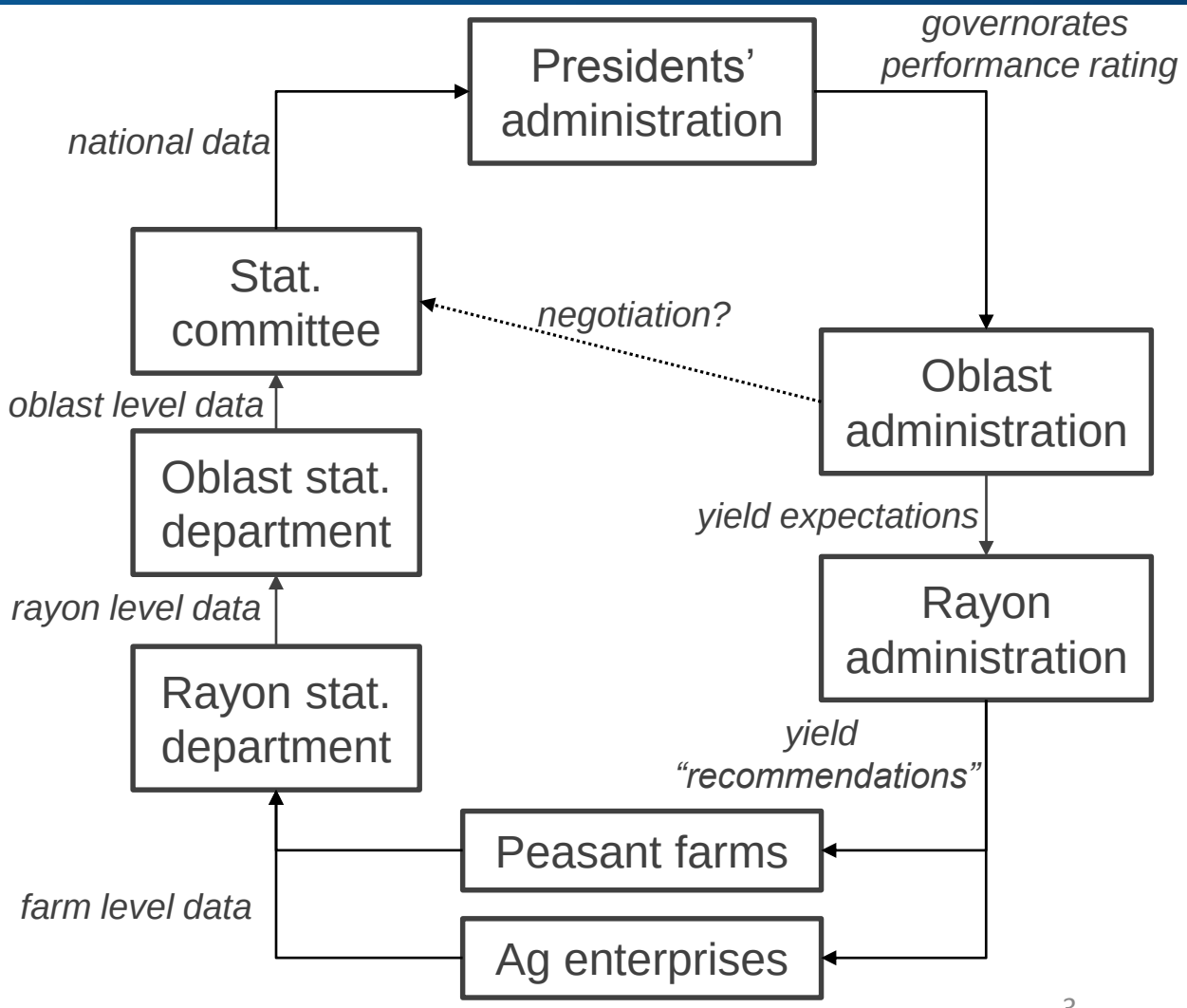
source: (1) https://ru.wikipedia.org/wiki/%D0%A5%D0%BB%D0%BE%D0%BF%D0%BA%D0%BE%D0%B2%D0%BE%D0%B5_%D0%B4%D0%B5%D0%BB%D0%BE

(2) http://lenta.ru/news/2013/08/06/distortion/

(3) http://agrosektor.kz/agriculture-news/kazahstan-posev-zernovyh-zavershen.html

Statistics data flow

- producers regulate their yield reports based on administration "recommendations"
- peasant farms that use single land tax scheme less afraid of consequences than ag enterprises who pay normal taxes
- "recommendations" enforcement through subsidy allocation, excessive inspection and even land use rights termination

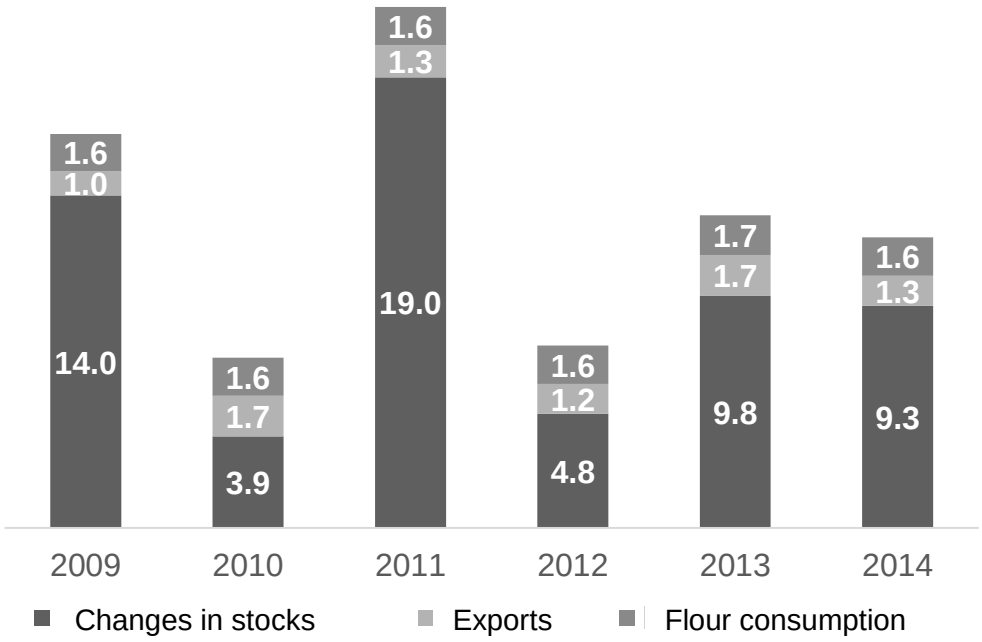


Pripiski in wheat production: estimate methodology

- Approach: compare wheat consumption estimate and production data
- Consumption = <change in stocks> + <flour production> + <exports>
- Change in stocks = <stocks in December 1st> - <stocks in August 1st>
- Wheat production - Statistics Committee's data based on 29-cx reports
- Flour production - Statistics Committee's data based on mills reports
- Wheat exports – Customs committee's monthly data
- Assumptions:
  - no wheat is harvested before August and after November
  - conversion ratio: 100 MT of wheat = 73 MT of flour
  - feed use of wheat is neglected
  - seed use 150 kg per hectare
  - flour production and exports data are reliable

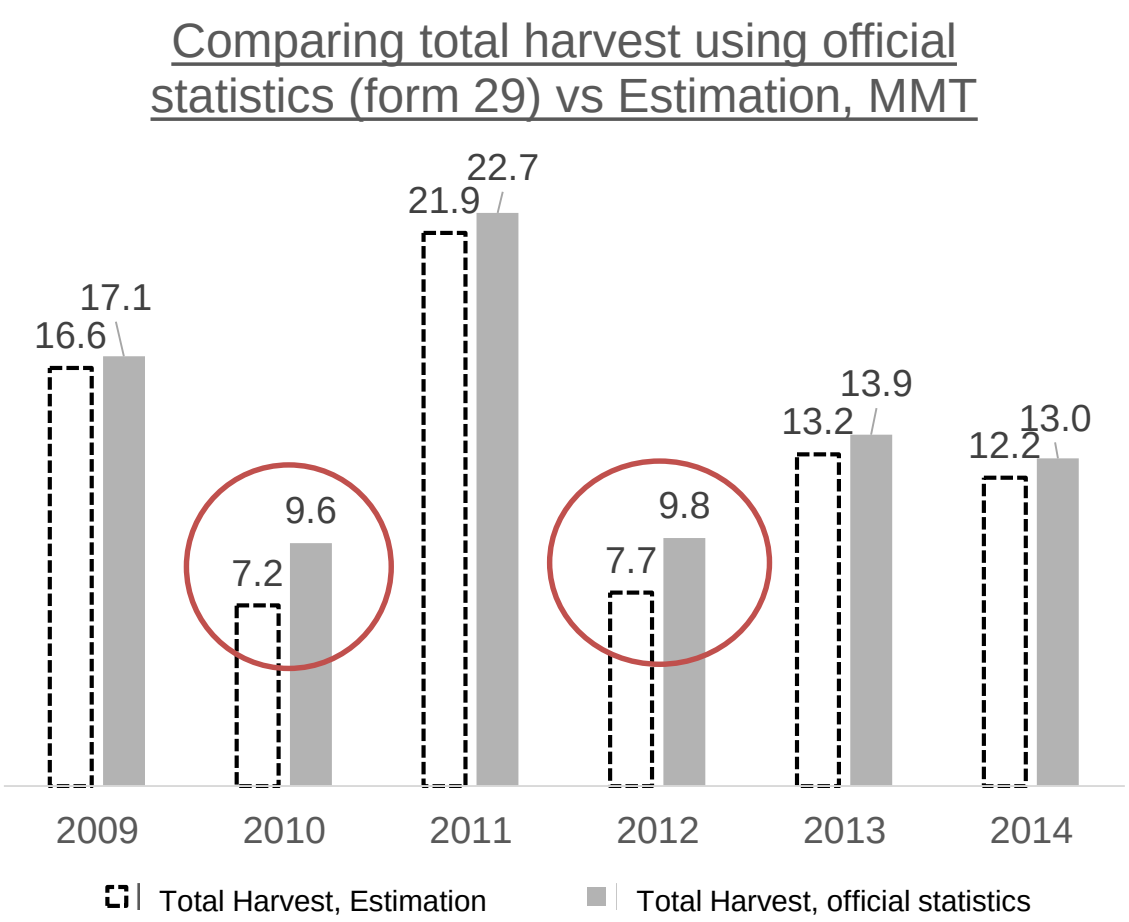
A rough estimation of Total Harvest: Combining changes in stocks, exports and consumption during August-November

Changes in wheat stocks, export and consumption
August 1 - December 1, MMT



- During high yielding years (2009 and 2011) exports is considerably low (~1,1 MMT);
- During years of high demand, wheat exports increase up to 1.7 MMT.
- Flour consumption is relatively stable – 1,6 MMT

In some years, the difference between estimation and official statistics is insignificant.



- In high harvest years, (2009, 2011) the difference between Official stats and Estimation is about 3%
- In low harvest (2010, 2012) the difference is ~24%
- *2013 and 2014 years – the difference is 6%*

In 5 years, amounts of pripiski may accumulate to one year total harvest

in MMT

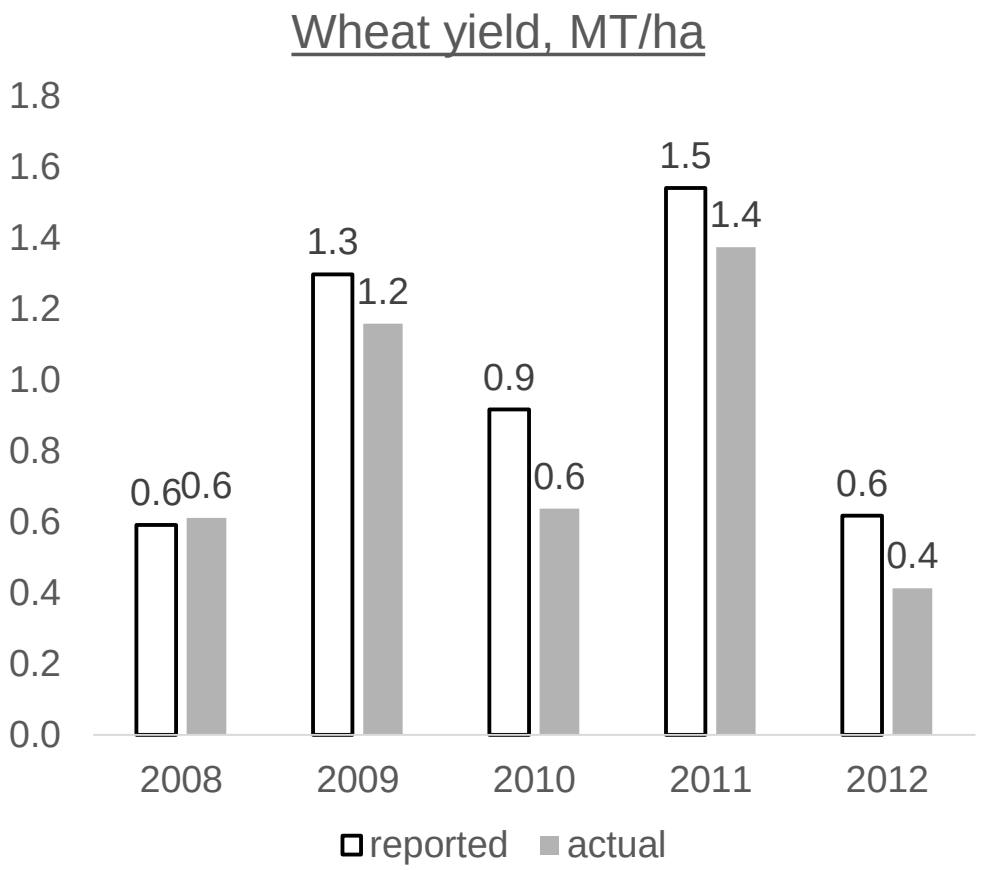
	2009	2010	2011	2012	2013	Total in 5 years
Consumption for flour (estimation)	*4,2*	*4,3*	*4,4*	*5,0*	*4,8*	*22,6*
Exports	*3,2*	*5,1*	*2,9*	*7,5*	*5,0*	*23,7*
Seed use (estimation)	*2,1*	*2,1*	*2,0*	*2,0*	*1,9*	*10,1*
Total consumption:	**9,6**	**11,4**	**9,3**	**14,4**	**11,6**	**56,3**
Total production (stat reports):	**17,1**	**9,6**	**22,7**	**9,8**	**13,9**	**73,2**
Beginning stocks	9,2	14,5	8,4	18,9	12,2	63,1
Ending stocks	14,5	8,4	18,9	12,2	11,5	65,4
Production + beginning stocks	26,2	24,1	31,1	28,8	26,1	136,3
Consumption + ending stocks	24,1	19,8	28,2	26,6	23,1	121,8
Mismatch	**2,1**	**4,4**	**2,9**	**2,2**	**3,0**	**14,5**

Annually, total harvest is over-reported by 2.2 – 4.4 MMT.

Notes and conclusions (1)

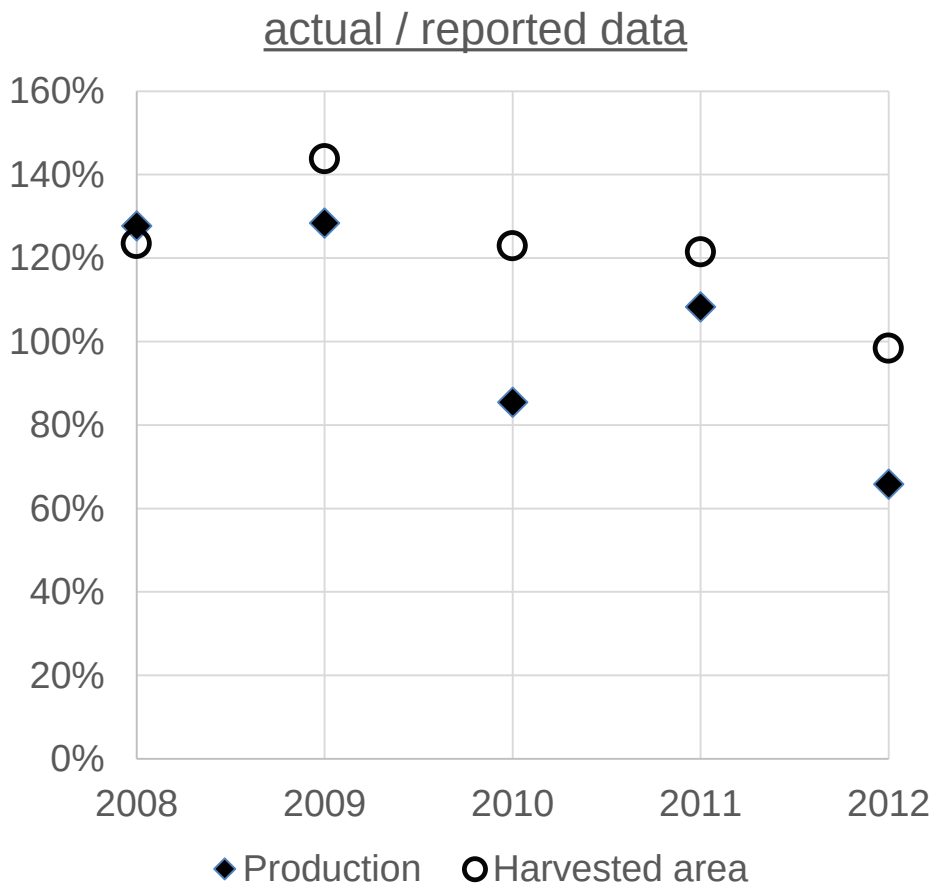
- pripiski in wheat production come through both in harvest reporting and stocks reporting.
- stocks bubble in the beginning of calendar year deflated during spring to show more realistic stocks in the beginning of next marketing year
- wheat for feed consumption data is not available in official statistics. Usually feed quality wheat is blended with higher quality to get standard one.
- pripiski is widely known secret, all levels of government and business are aware of the phenomenon
- pripiski affect food security: inability to estimate wheat stocks in 2008 led to export ban

21 farms observation: actual wheat yield vs reported



- yield pripiski exist either in high harvest and low harvest years
- In high harvest years (2009, 2011), the difference between reported and actual yield is about 11%
- In low harvest years (2010, 2012) the difference is ~32%

21 farms observation: production volume and harvested area data are also distorted



- Significant discrepancy between actual and reported data in both production and area
- Actual area is often underreported – producer don't show cultivated land registered as pastures
- Reported production is a compromise between "recommended" yield and reported area

Notes and conclusions (2)

- Farm level data confirms higher overreporting in low-harvest years
- Real farming lives different from statistics:
  1) producers may cultivate pastures – in statistics reports they show only arable land cultivated
  2) unless enforced, farmers prefer to show less than reality (echo of dekulakization campaign in the beginning of XX century)
  3) big producers experience serious losses due to employees fraud
  4) small producers have better control on operations and fraud losses
- Only producers could be punished (fined) for misreporting.
- No responsibility and legal consequences for government employees.
- Performance rating is a side effect of central control system and an ugly surrogate of democratic institutions
- Pripiski exist in almost all former Soviet Union countries

Thank you!