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Impact of alternative input subsidy exit strategies on Malawi's maize commodity market

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Input Subsidy Programs in Sub-Saharan Africa: Methods, Findings,
and Implications for Policy

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Introduction



Positive impact of input subsidies on maize commodity market in Malawi - undoubted

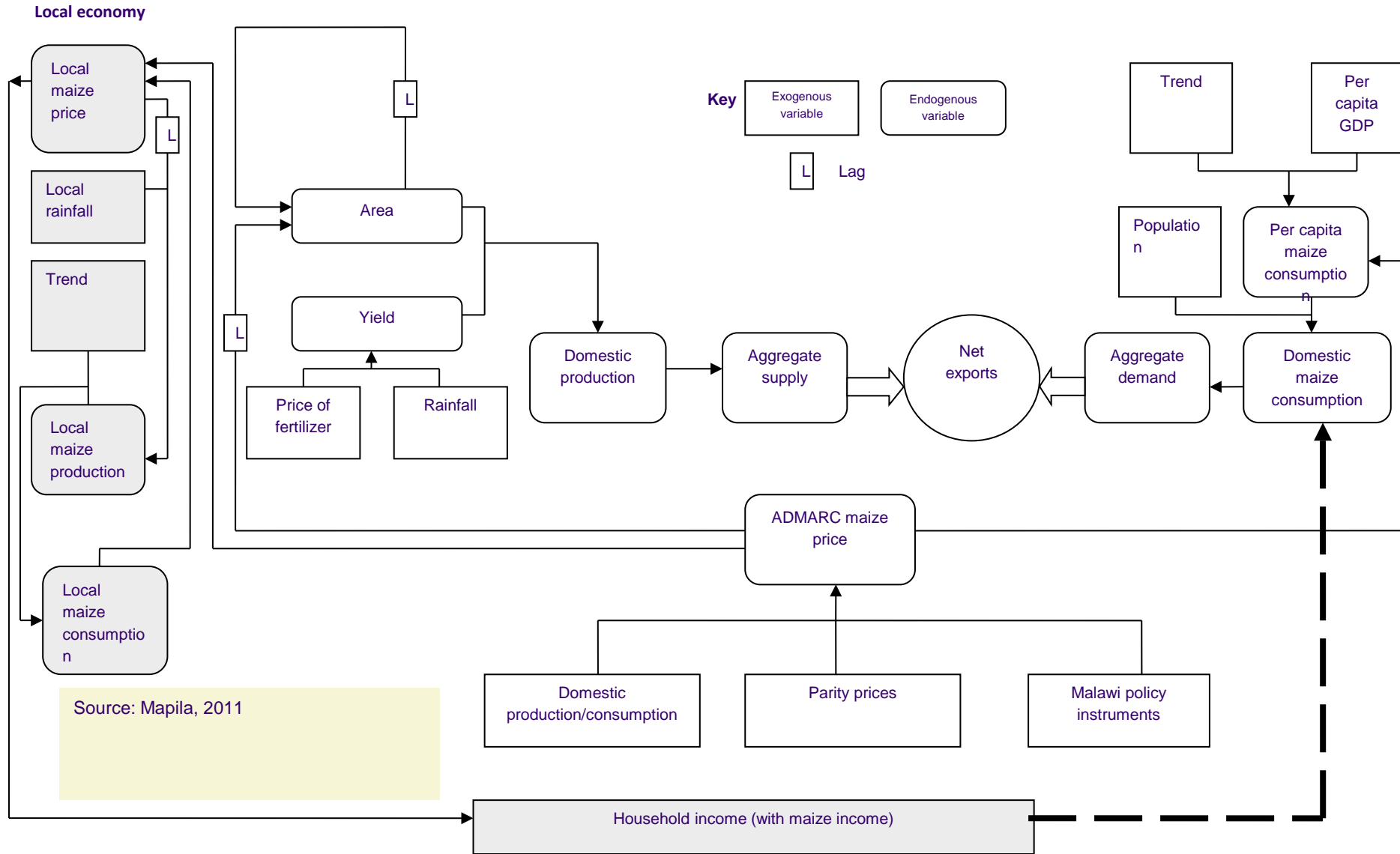
Why exit strategies?

- Input subsidies intended to be short term strategy
- Resistance to scaling down or removal from:
 - Beneficiaries
 - Non-beneficiaries
 - Politicians
- FISP Skeptics - budgetary burden of farm input subsidies, macroeconomic fall out, crowding out of private sector, lack of clear exit strategies

Objective of study

- Analyze the impact of exit from the Farm Input Subsidy Program (FISP) on Malawi's maize commodity market.

Methodology – Malawi maize model



Methodology - maize model (2)

Domestic Maize Supply Block

Production $QP_t = AM_t \times YM_t$ (1)

Area $\log AM_t = a_0 + a_1 \log AM_{t-1} + a_2 \log NPM_{t-1} + a_3 DAG_1$ (2)

Yield

$\log YM_t = a_0 + a_1 \log Rn_t - a_2 \log PF_t - a_3 DAG_2 + a_4 S06 + a_5 Dsub$ (3)

Beginning stock $BS_t = ES_{t-1}$ (4)

Domestic Maize Demand Block

Consumption $QC_t = PCC_t \times PP_t$ (5)

Per capita consumption

$\log PCC_t = a_0 - \log NPM_t + a_2 \log pGDP_t - a_3 TN_t + a_4 DR - a_5 DXP$ (6)

Ending stock $ES_t = a_0 + a_1 BS_t + a_2 QP_t - a_3 NPM_t$ (7)

Methodology – maize model (3)

Price Block

ADMARC maize price

$$\log NPM_t = b_0 + b_1 \log IPP_t - b_2 \log(QP_t/QC_t) + b_4 DI - b_5 DLIB \quad (8)$$

Model Closure

$$\text{Imports } \log IM_t = a_0 - a_1 \log NXP_t - a_2 S06 + a_3 Dpvt + a_4 DNF \quad (9)$$

$$\text{Net exports } NXP_t = QP_t - QC_t + BS_t - ES_t \quad (10)$$

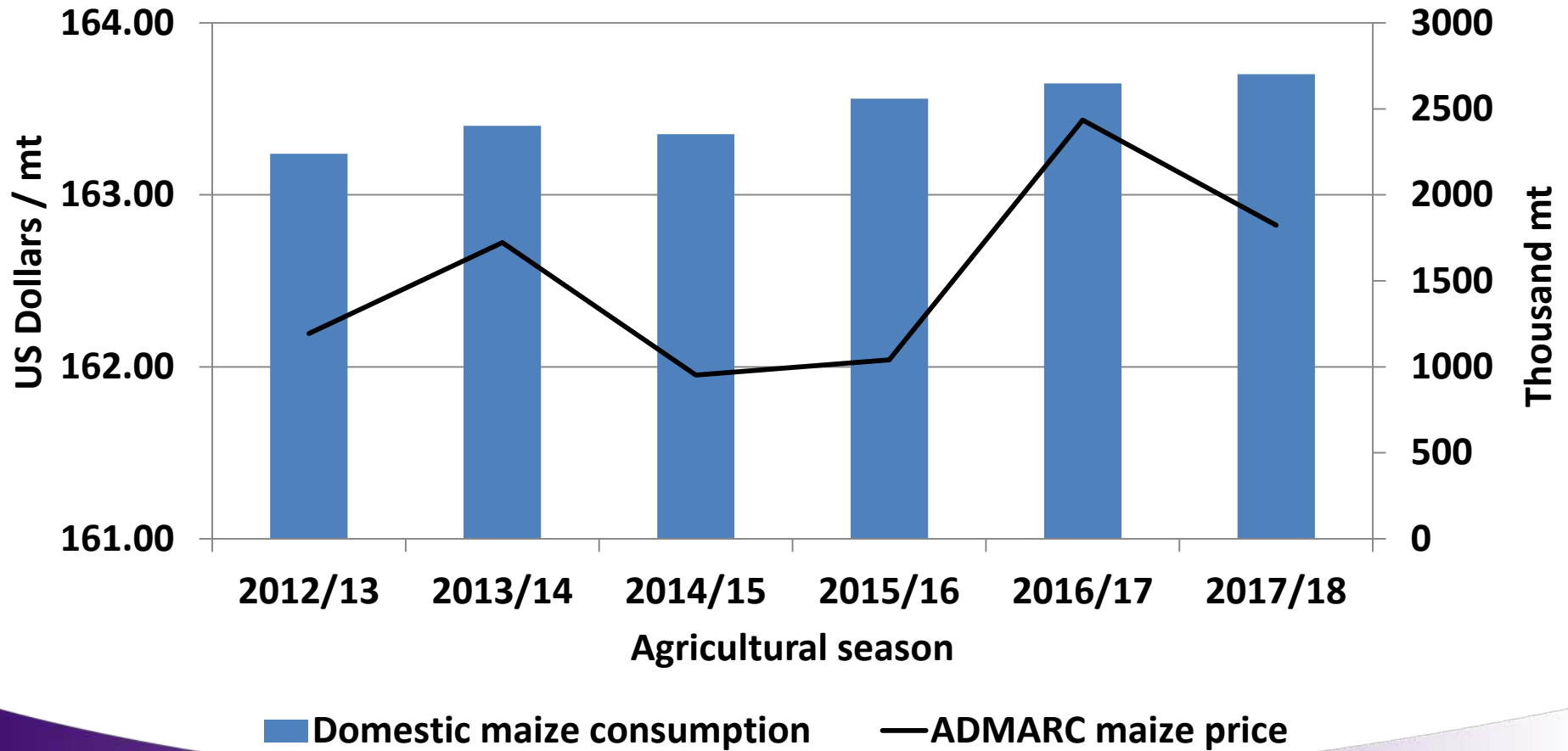
$$\text{Exports } XP_t = NXP_t + IM_t \quad (11)$$

Methodology- model simulations

- A) Baseline scenario – FISP continues
- B) Exit from FISP:
 - 1) Complete removal of subsidy program
 - 2) Scale down amount of subsidized fertilizer
 - 3) Scale down number of targeted beneficiaries
 - 4) Complement exit strategies with improved Agricultural Extension Services

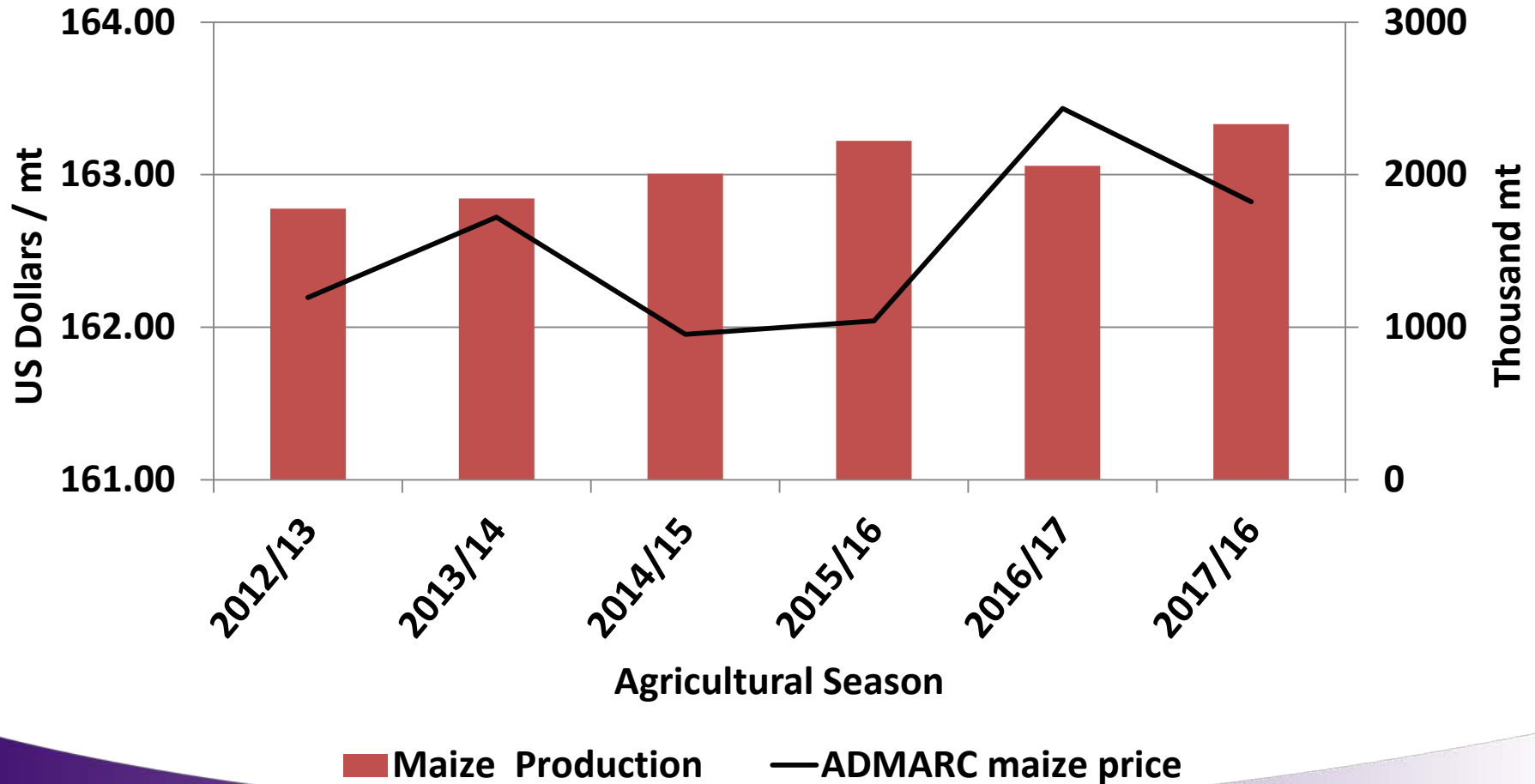
Baseline scenario- FISP as in current status

Domestic maize consumption and ADMARC price



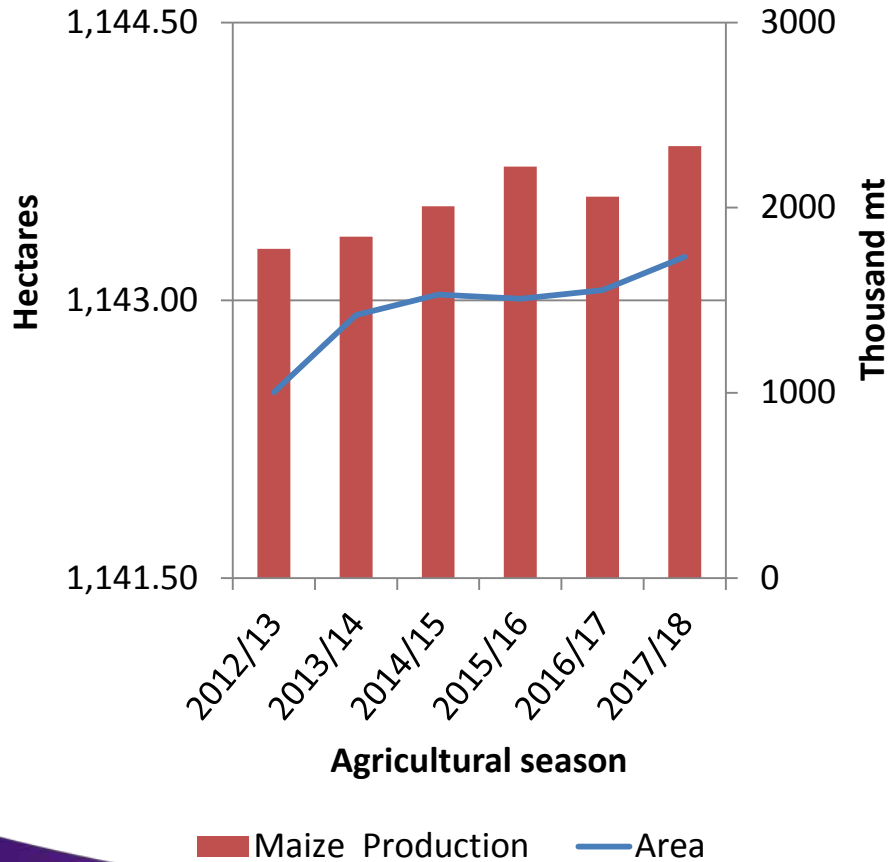
Baseline scenario (con't)

Domestic maize production and ADMARC maize price

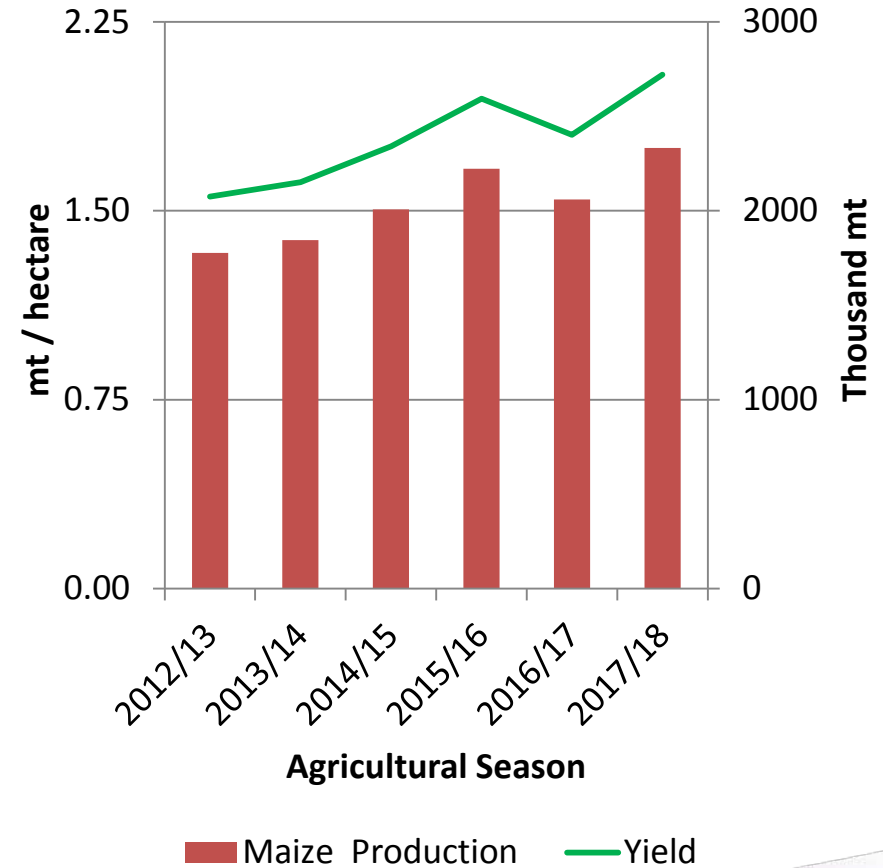


Baseline scenario (con't)

Domestic maize production and acreage



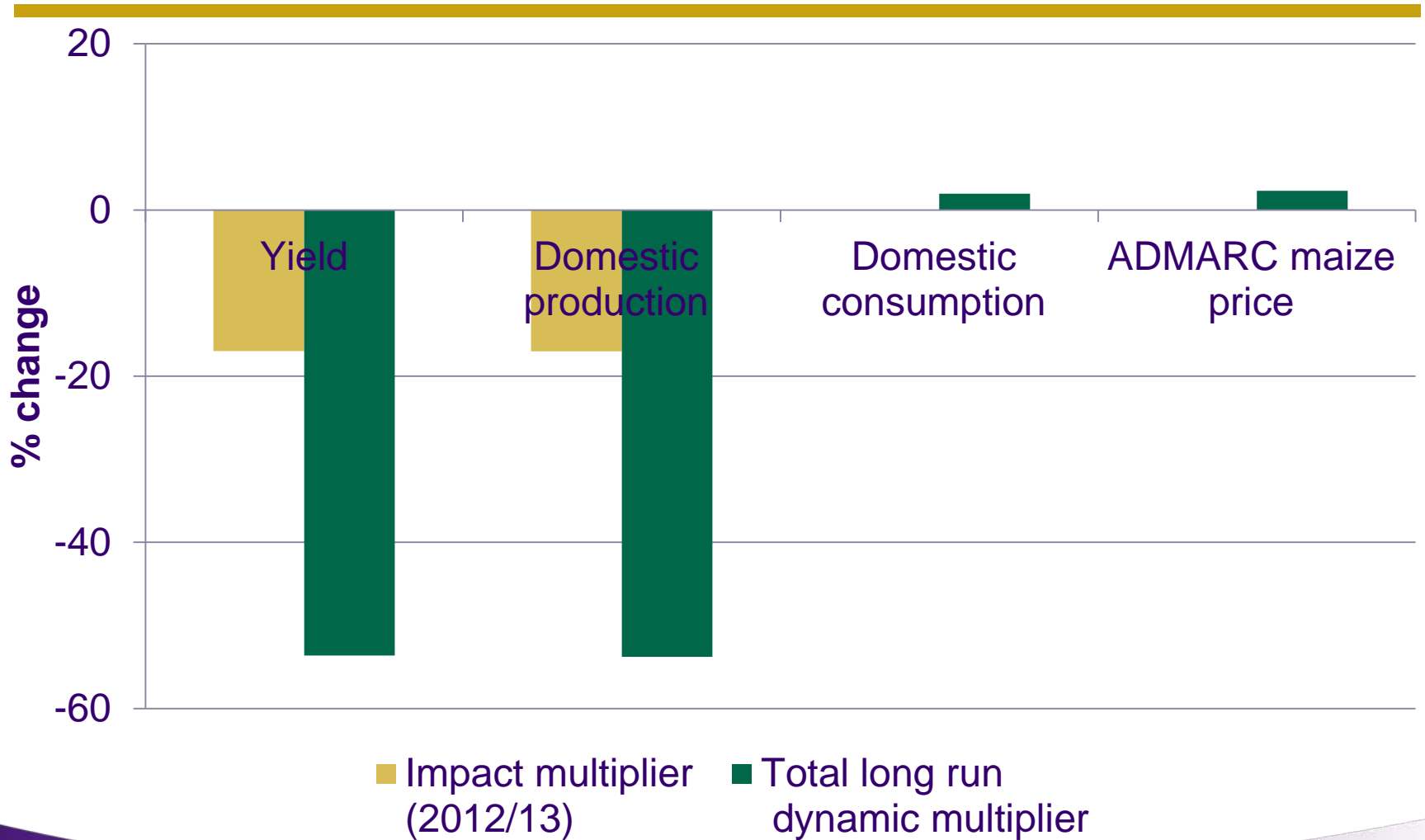
Domestic Maize production and yield



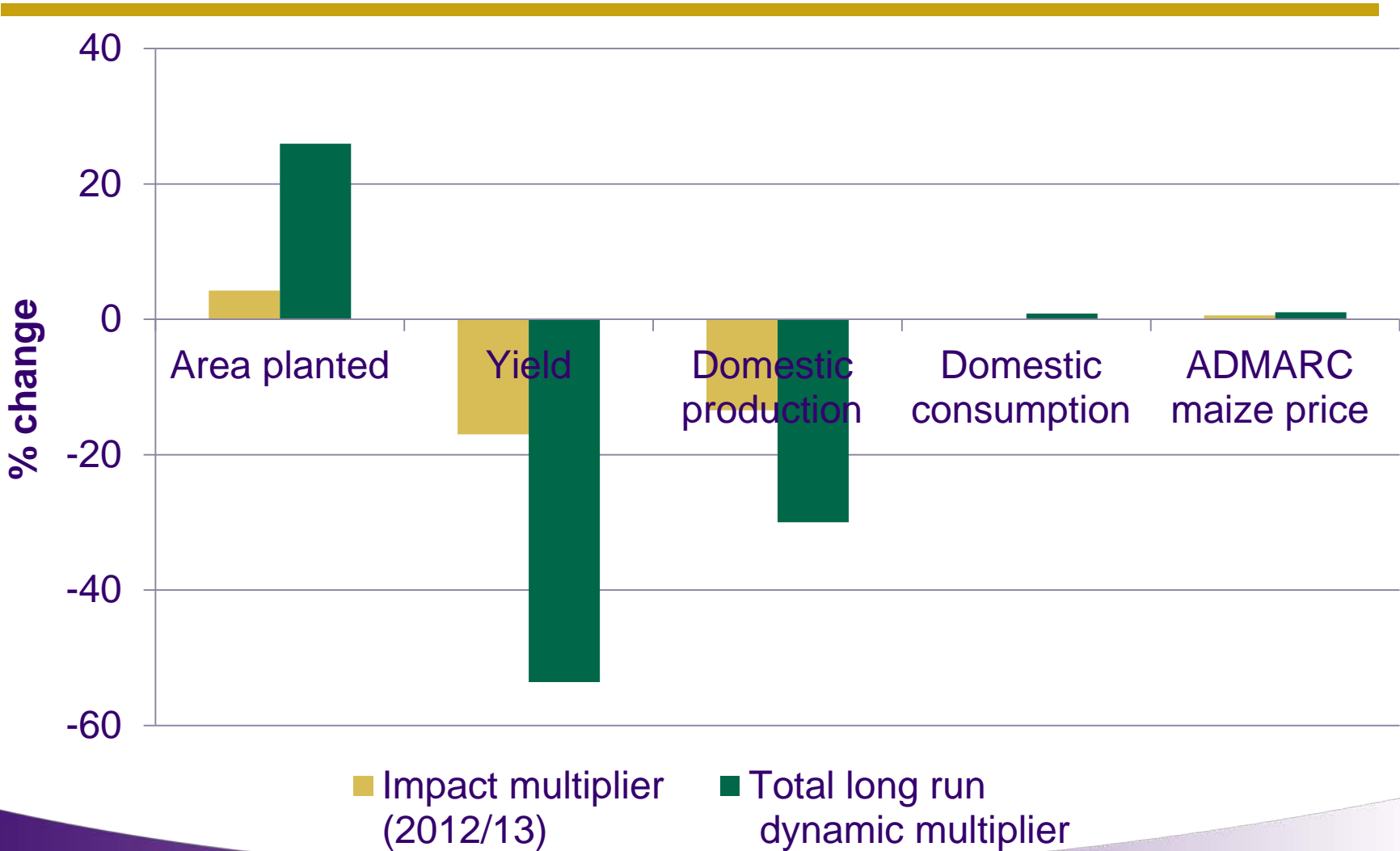
Exit strategy – simulation results

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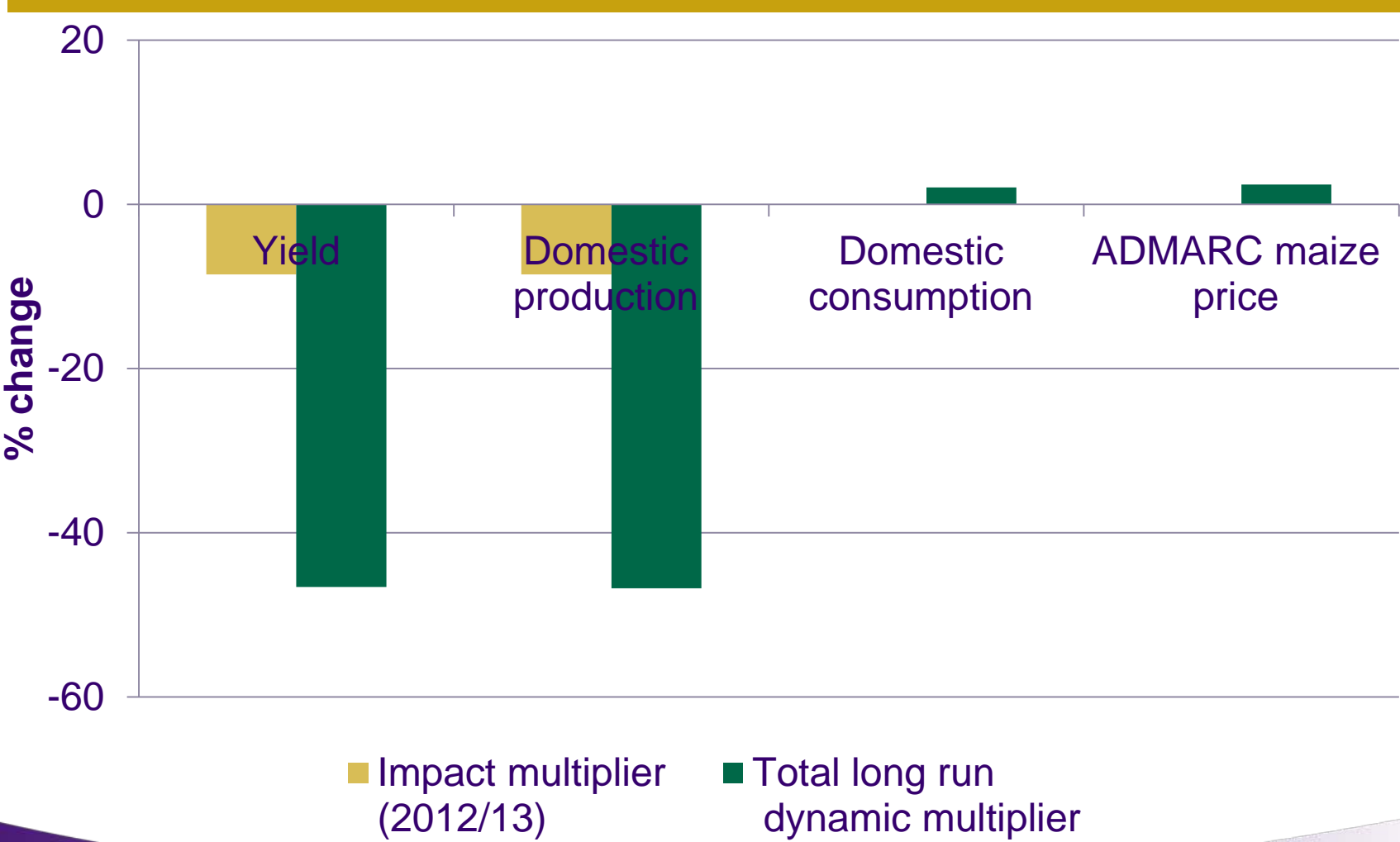
Complete removal of subsidy



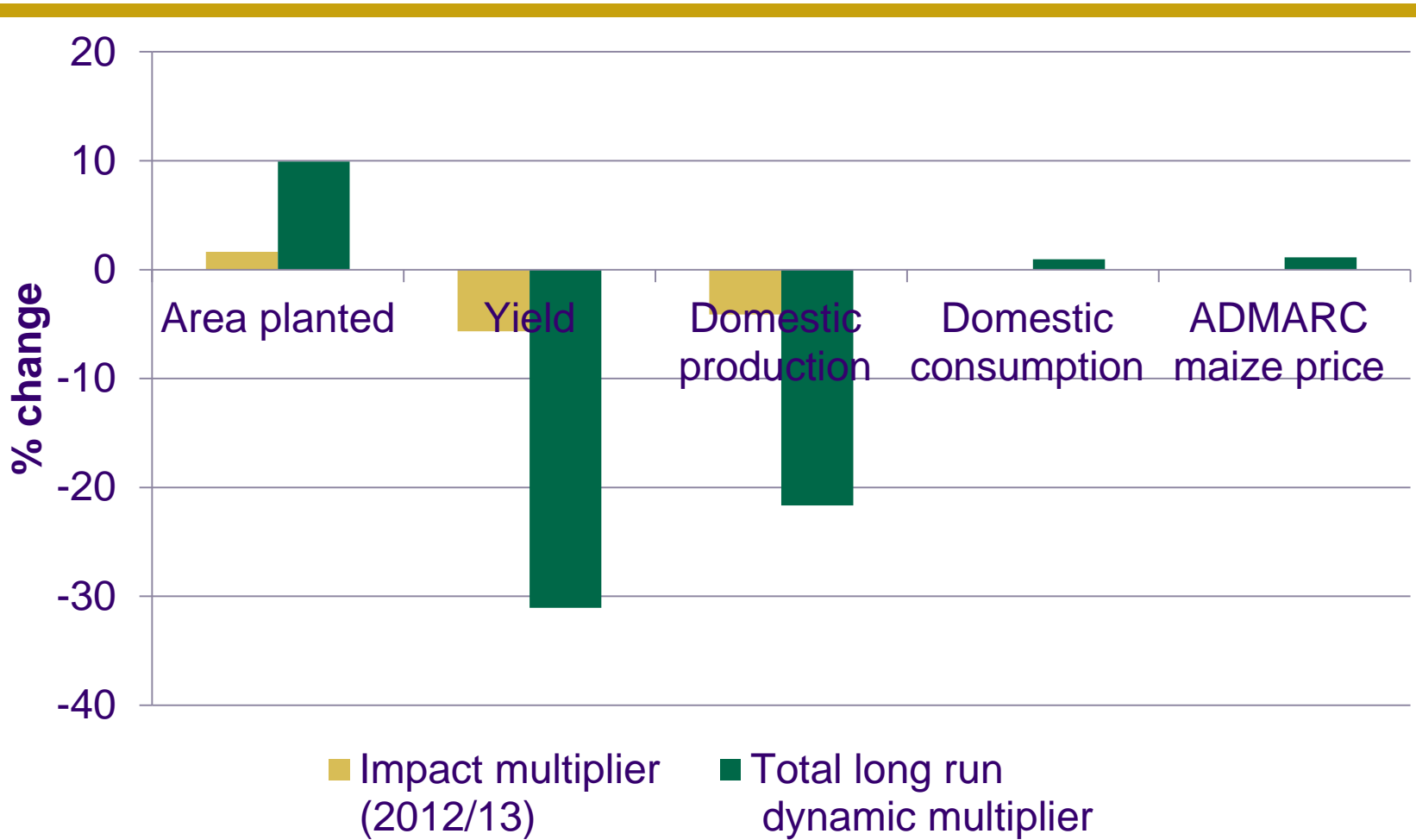
Complete removal + improved extension services



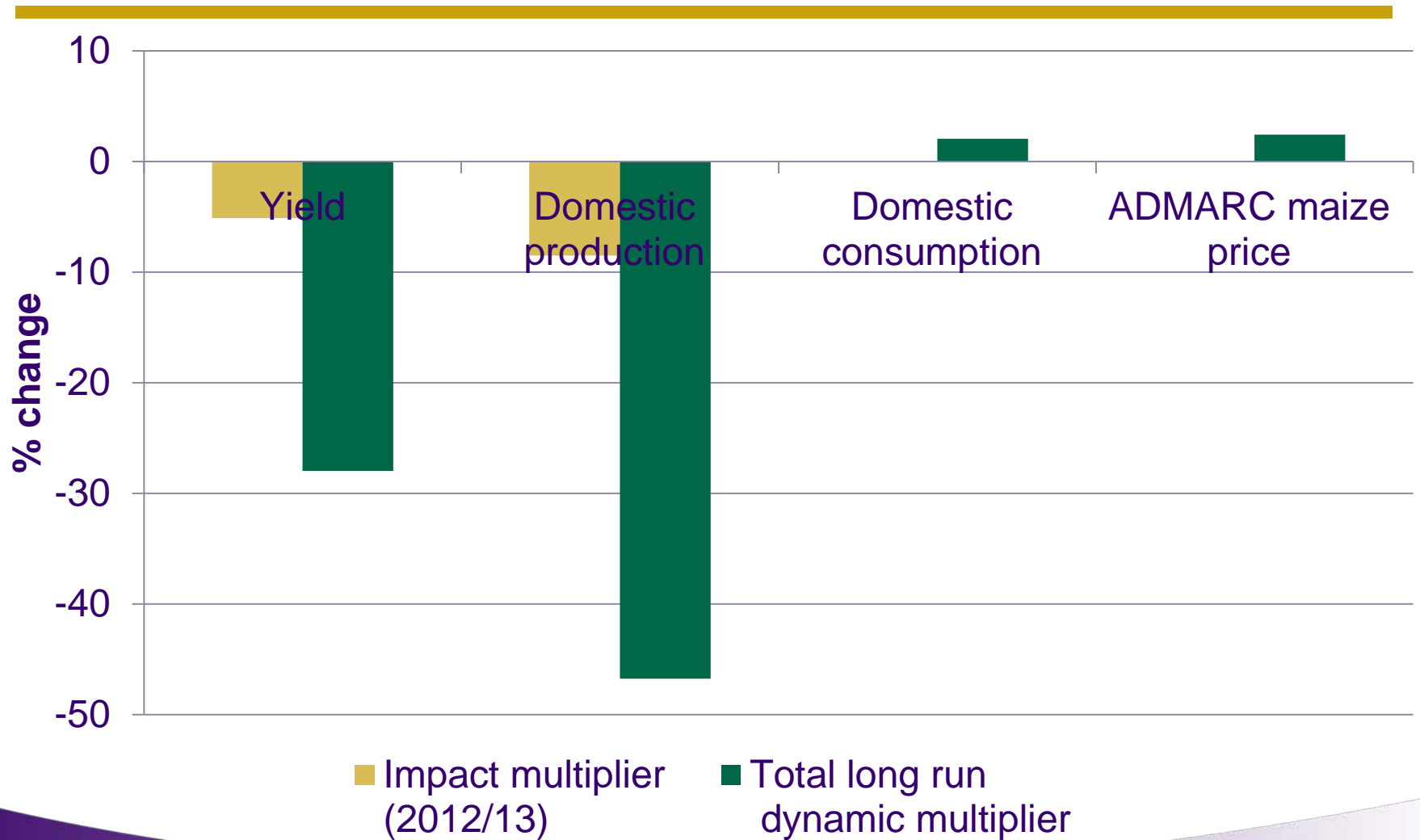
Reduce amount of subsidized fertilizer



Reduced fertilizer + improved extension services



Reduce number of beneficiaries



Conclusions

- Complete removal of farm input subsidies is not a feasible option
 - Negative impacts on maize commodity market
 - Entrenchment of subsidies in policy dialogue
- Scaling down more likely to occur using more 'practical' options:
 - Scaling down number of targeted beneficiaries
 - Scaling down amounts of subsidized fertilizer

Conclusions

- Considerations in designing scale down strategies:
 - Gradual implementation
 - Need for complementary strategies to minimize losses
 - Duality of smallholder farmers – producer and consumer
 - Entrenchment of fertilizer subsidies in the African political agenda
- Other areas of research – impact of exit on households, private sector input markets and networks