

UK Farm-level Impacts of Alternative Future Trading Scenarios

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Background



- Original work for AHDB covered 7 farm types in England
- Technical report became basis for summary 2017 Horizon publication – to help AHDB prepare farmers for coping with Brexit. Both available from AHDB website
- Extensions to study covered Scotland, Wales, Lake District National Park
- NFU-funded work covered the broiler and egg sectors

The variables and scenarios considered

- Four key variables analysed:
 - UK domestic policy
 - Trade relationship between UK and EU and with rest of world
 - Access to migrant labour
 - Regulatory framework
- Three scenarios assessed:
 - Scenario 1: Evolution
 - Scenario 2: Unilateral liberalisation
 - Scenario 3: Fortress UK

Brief methodology (1)

- Literature Review of c. 20 recently published studies
- Prices on UK commodity markets in trade relationships estimated by gravity model
 - Tariff data taken from government trade tariff service / AHDB
 - Elasticities taken from available literature
 - Data on future world prices taken from latest EU Agricultural Outlook
 - Results sense-checked against basic economic analysis
- Restriction on access to labour assumed to lead to 50% increase in labour costs faced by UK producers
- Regulatory simplification assumed to reduce some variable costs by 5%

Brief methodology (2)

- Impact at farm level used model developed from FBS published data for each farm type (special model for potato enterprise)
 - Account leading to FBI disaggregated into main components of output and costs
 - Averages (for groups) taken over a three-year period, expressed in real terms
 - Impact on FBI produced by the model recognised as only first-round and before any adjustment by farmers
 - Separate results calculated for each FBS farm type and within them by economic size of farm business and level of performance (output/input ratio)
 - Sensitivity analysis
 - Longer-term adjustments treated qualitatively by consultation with farm management experts

The scenarios

Scenario 1

- Free Trade Agreement made with EU
- Agriculture support, labour costs and regulation unchanged

Scenario 2

- No trade deal with EU, but UK unilaterally lowers all tariffs to zero
- 50% reduction in overall agricultural support
- Permanent labour costs rise
- 5% reduction in regulatory costs

Scenario 3

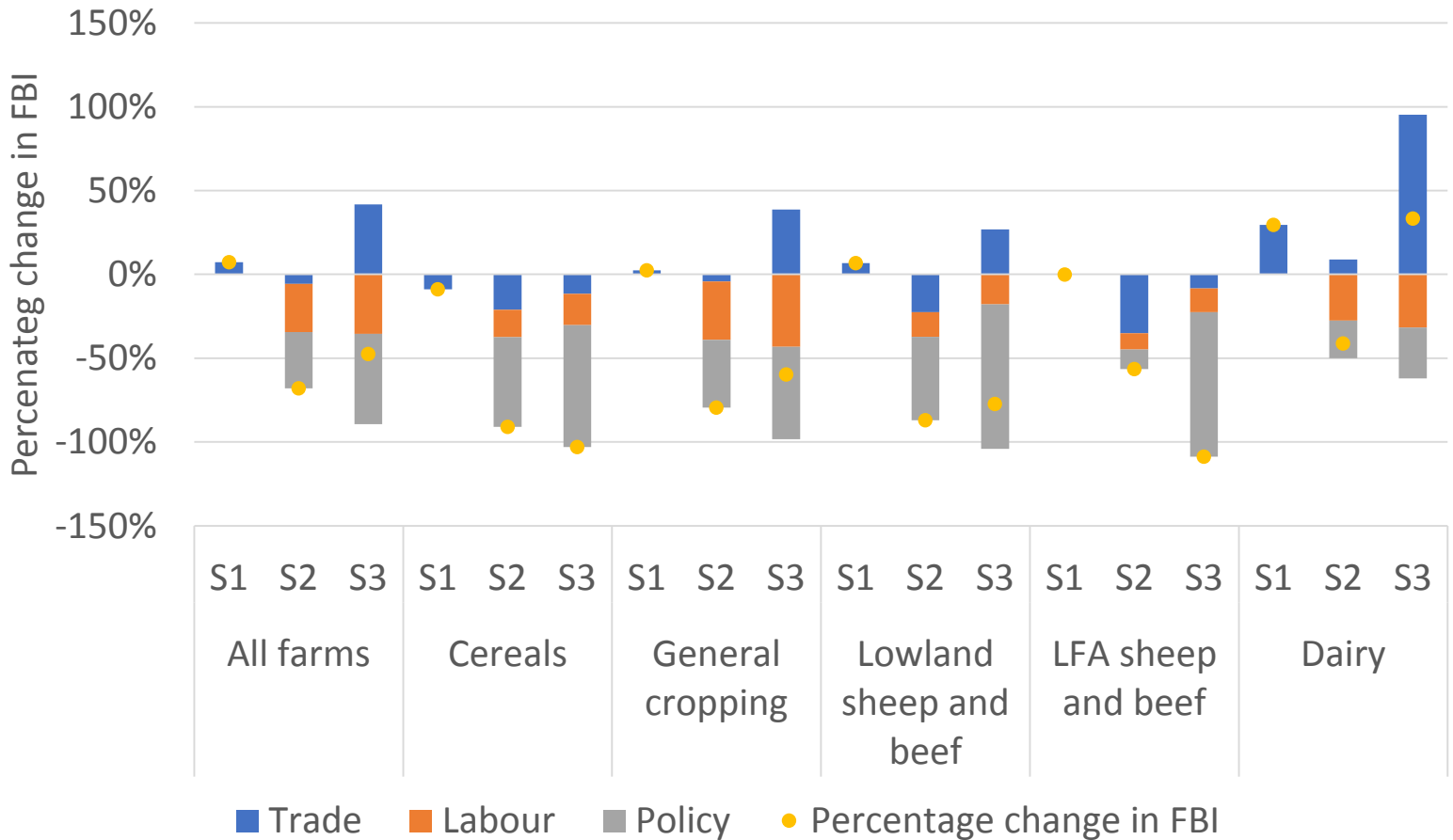
- No deal with EU
- WTO tariffs apply to exports from UK to EU and go all imports to UK
- 75% reduction in overall agriculture support
- Labour (permanent and seasonal) costs rise

Comparison with FAPRI price changes

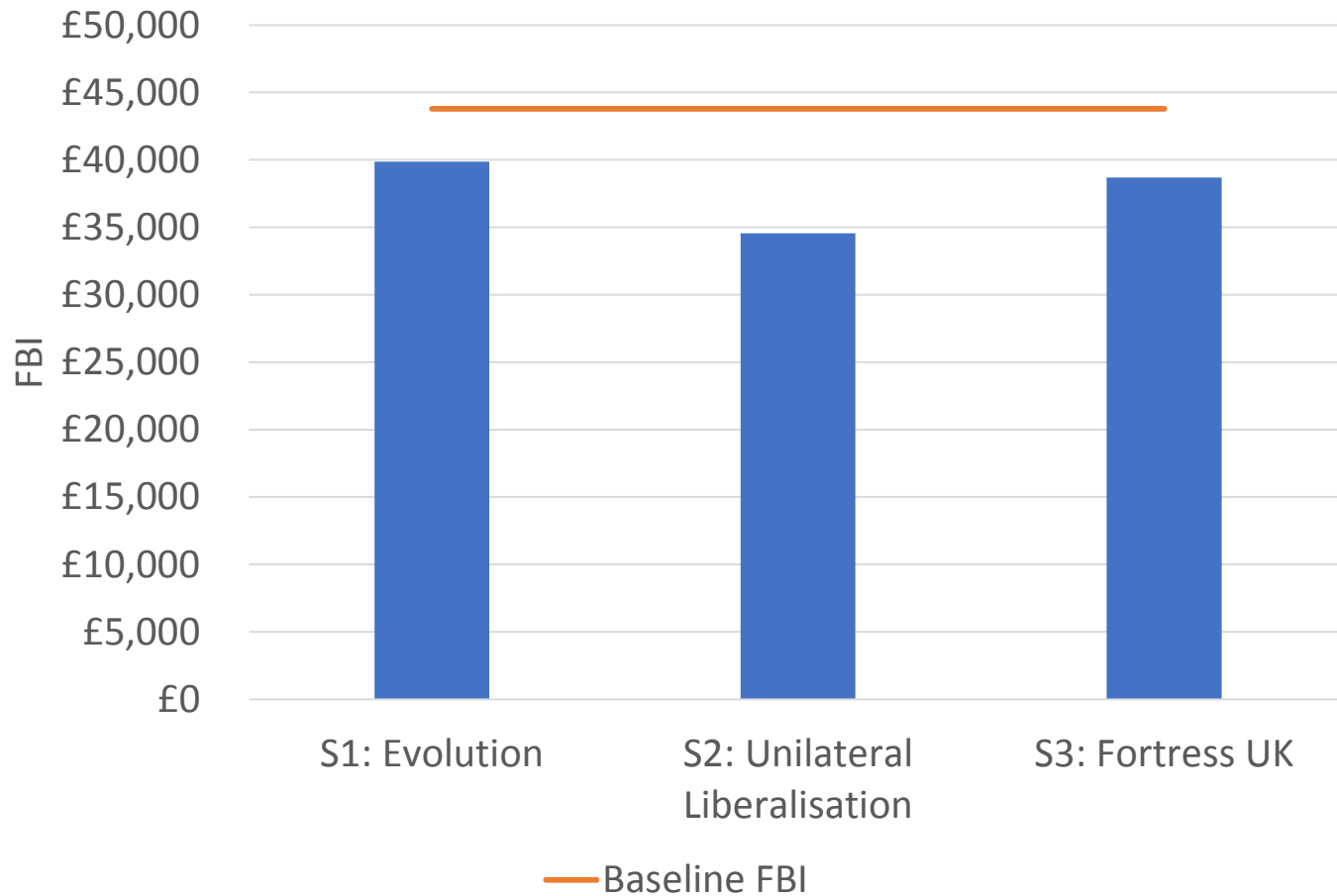
- Our price changes are broadly consistent with those produced (later) by FAPRI. The following fundamental differences must be born in mind:
 - They use different basic data sources (this affects in particular the assumed world price of beef which is substantially higher in our data source than that taken by FAPRI).
 - The FAPRI-UK estimates relate to the prices projected for 2025 compared with the baseline, whereas our work is based on prices in the European Commission's EU Agricultural Outlook (2016 edition) averaged over the years 2014-2018 which is then fed into a gravity model and compared with our (different) baseline.

Some results from England

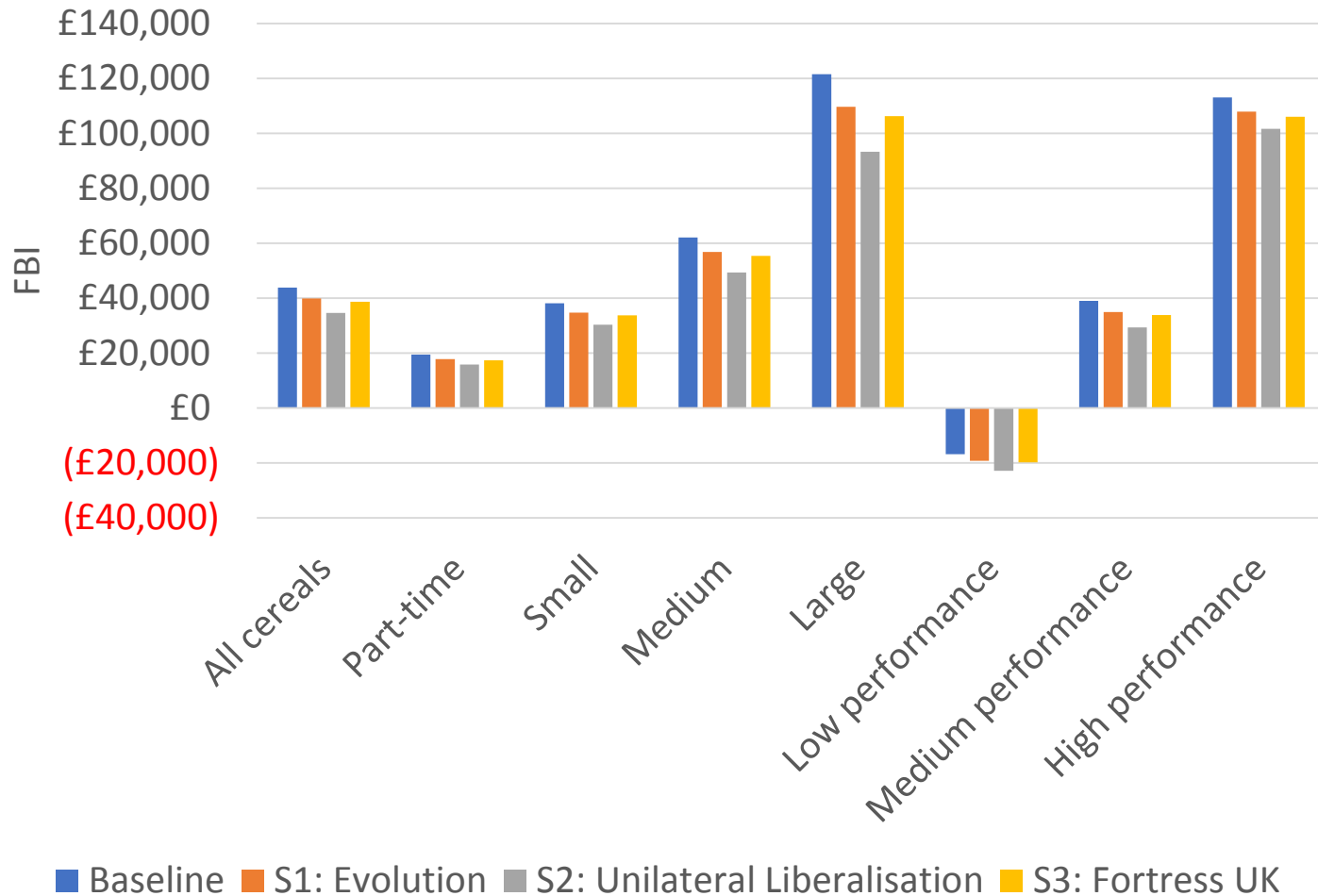
Impact of key variables on FBI by farm type



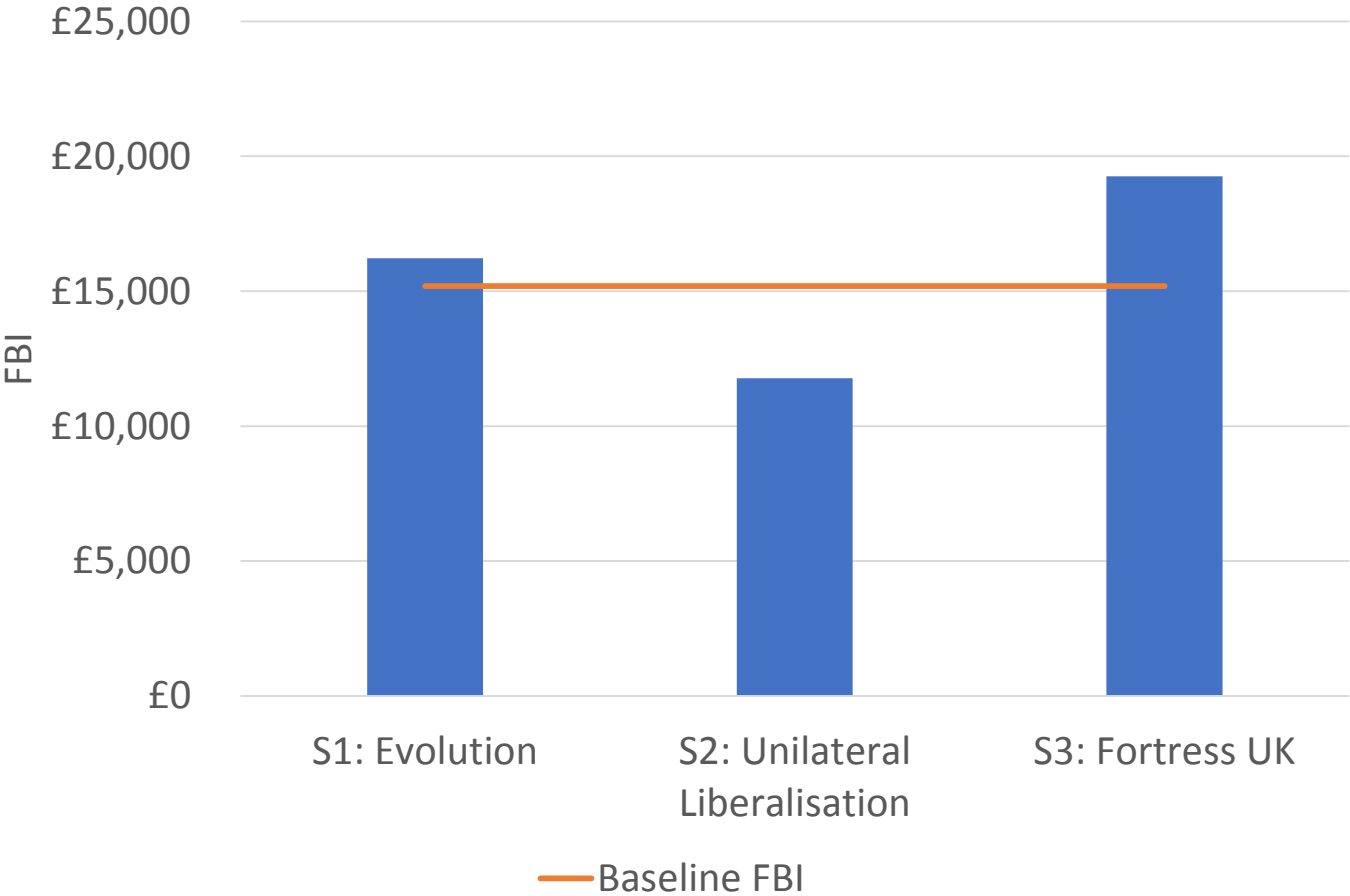
Impact of trade variable on England cereal farm FBI



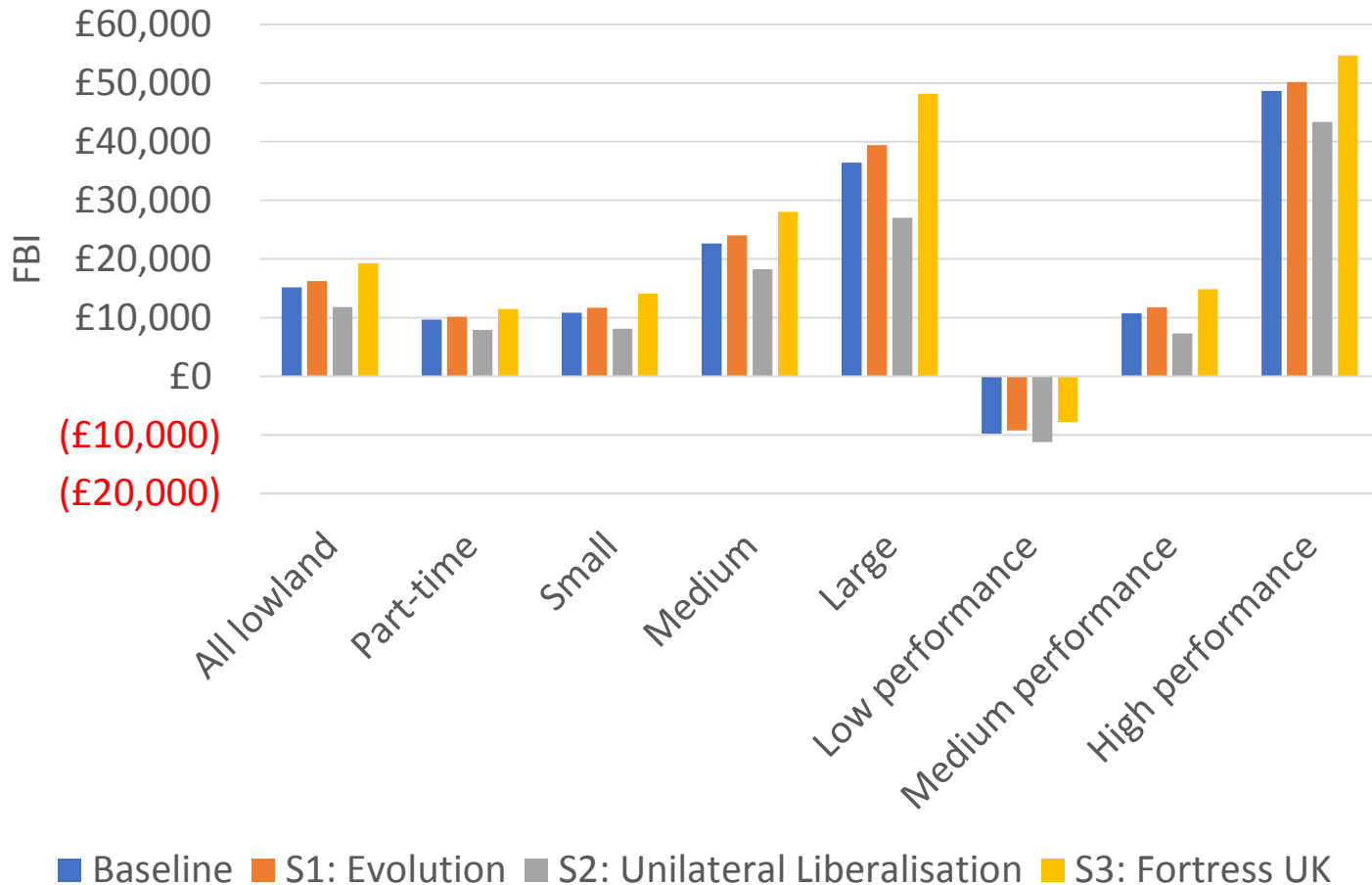
Impact of trade variable on England cereal farm FBI



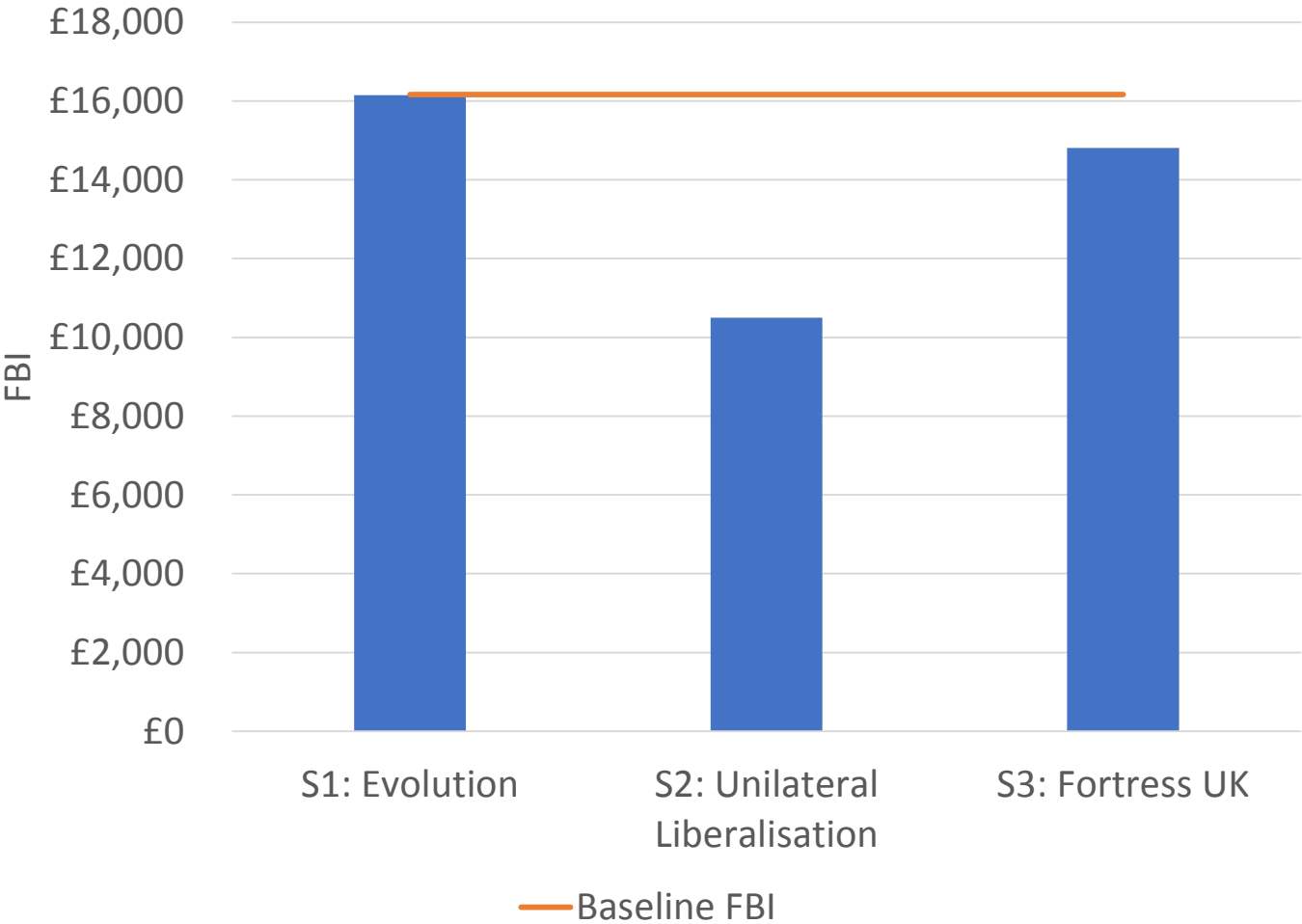
Impact of trade variable on England lowland sheep and beef farm FBI



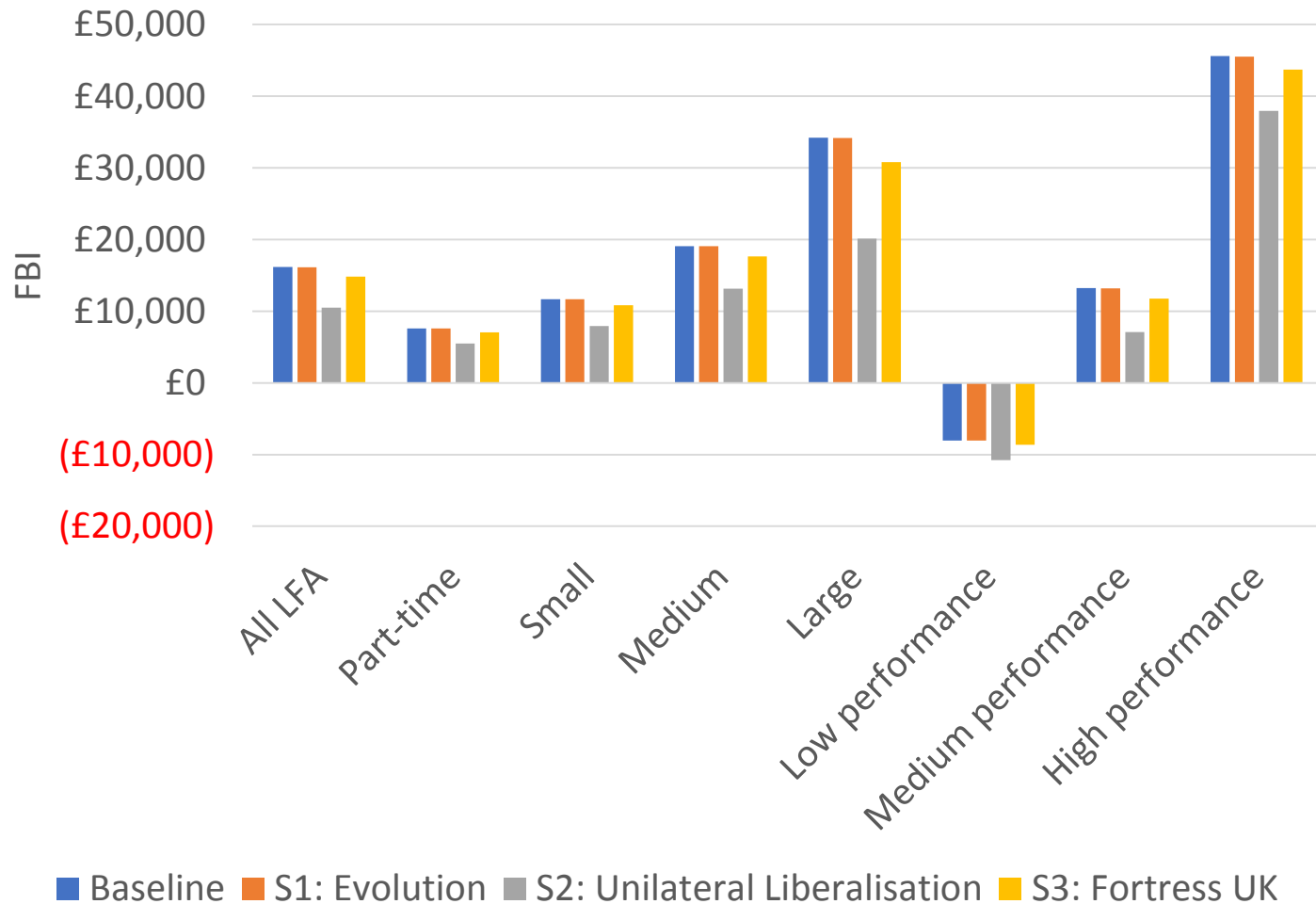
Impact of trade variable on England lowland sheep and beef farm FBI



Impact of trade variable on England LFA sheep and beef farm FBI



Impact of trade variable on England LFA sheep and beef farm FBI



Key conclusions

- LFA sheep and beef producers are the most vulnerable to the trade impact of Brexit under Scenario 2: Unilateral liberalisation
- Cereal producers would see FBI reduced under all scenarios
- FBI for high performance farms is best protected under all scenarios
- Large farms often see the largest falls in FBI under Scenario 2: Unilateral liberalisation because a higher proportion of total output comes from the market