

Long-term labour market forecasting in FYROM

Adapting HERMIN methodology to labour market analysis

Key elements

Methods used: system of econometric models, microeconomic LFS analysis

Data : yearly time series - national accounts, individual national LFS data (provided by national Statistical Office of Macedonia).

Classifications: NACE, ISCED, ISCO

Coverage of results:

- Yearly estimates up to 2025
- FYROM
- Forecast of macroeconomic development in 5 main sectors and 14 subsectors (3 scenarios)
- Employment (by 14 sectors, 3 levels of ISCED and ISCO)
- Identification of initial qualification mismatch
- Replacement demand anticipation
- Development of data and model manual
- Providing training to ensure sustainability
- Developed in 2011-2013, yearly updates under TAIEX short-term missions (2014,2015,2016)

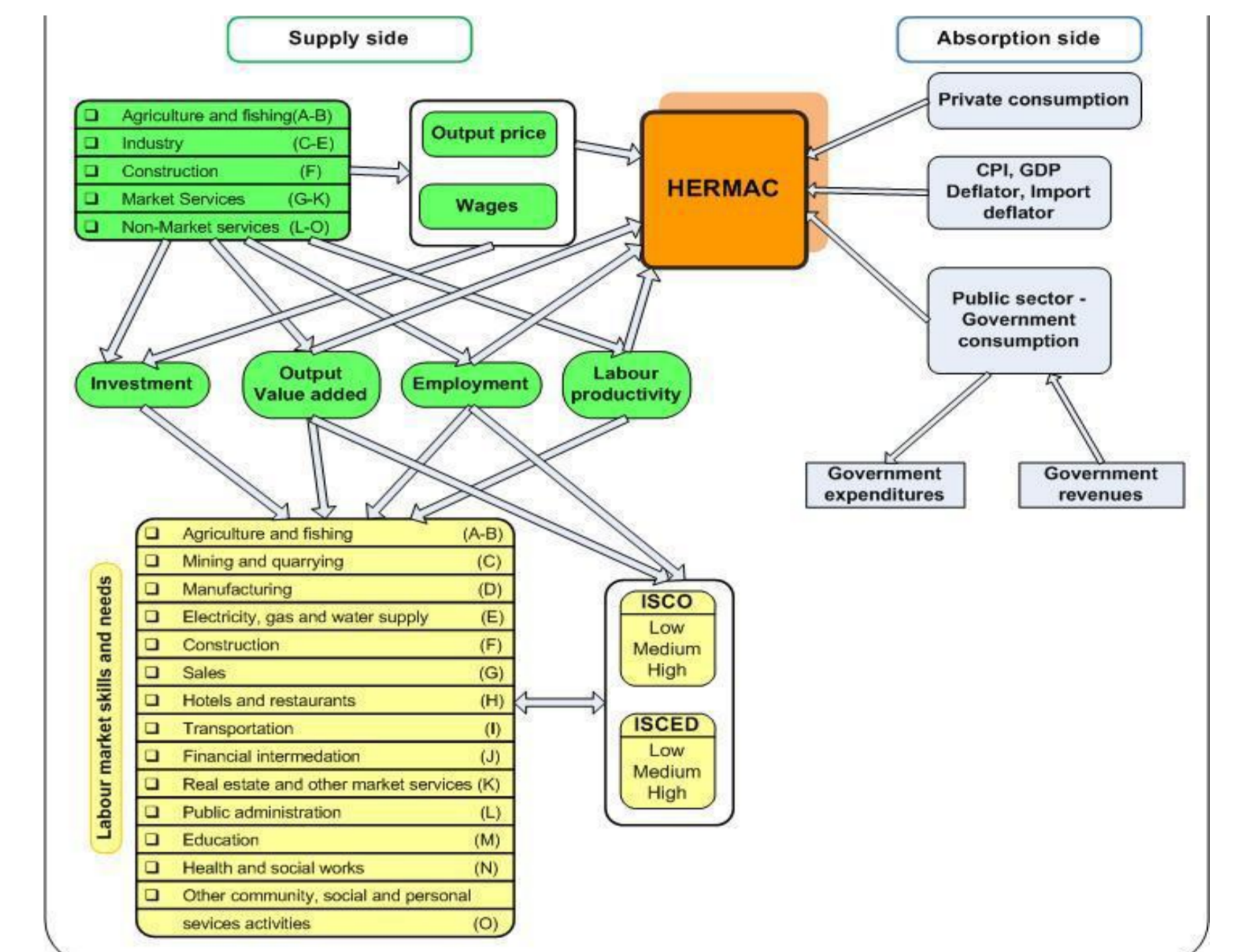
Overview of the approach adopted

- Based national HERMIN model developed for EC by (Bradley, 2000) to estimate the effects of cohesion policy (ESF)
- Tailor made augmentation (HERMAC) for FYROM (Radvansky et al., 2013)
- Suitable for small open economy with low quality data sources – covers both demand and supply side
- Initial sectors (agriculture, manufacturing, market services, non-market services (and construction)) were extended to 14
- Regional methodology further developed by WARR Poland on NUTS2 regions (Bradley et al., 2008), NUTS 3 regions at Slovakia (Radvansky et al., 2016)

Key exogenous variables

- **External variables:** World output and prices; exchange rates; world interest rates;
- **Main domestic (policy) variables:** Demographic development; public expenditure; tax rates (PIT, CIT, VAT); social contribution rate, pension replacement rate, interest rates.

Scheme 1: Incorporating labour demand at FYROM HERMAC model



Policy context

Long term labour market forecasting was developed to Support the National Employment Policy Making

(Twinning project MK2007/IB/SO/02)

- Model developed with the Ministry of Labour and Social Policy to support macroeconomic forecasting and quantification of policy goals related to strategic policy planning
- Identification of potential education and skills mismatch within the country
- Revealing economic mechanisms and providing structural forecasts in transforming country with lack of reliable data sources

Key results and messages

- Selected methodology is applicable and adjustable in respect to produce relatively well structured macroeconomic (production, GDP and main components, fiscal block incl. social transfers and debt) and labour market forecasts
- Several supporting sub-models interconnected to HERMAC results were developed and implemented: Demographic development; economic activity; labour supply by 3 education levels ISCED; employability indicator for 8 fields of education; replacement and expansion labour demand; formal qualification mismatch; working hours
- Shifts towards tertiary (higher) education is clearly visible and is expected to continue at similar pace
- Trade-off effects between manufacturing and agriculture based on strength of economic growth
- Replacement demand will create majority of future job openings in the country, despite it is often underestimated (or ignored).

Figure 1: Additional (expansion) demand for labour by education level

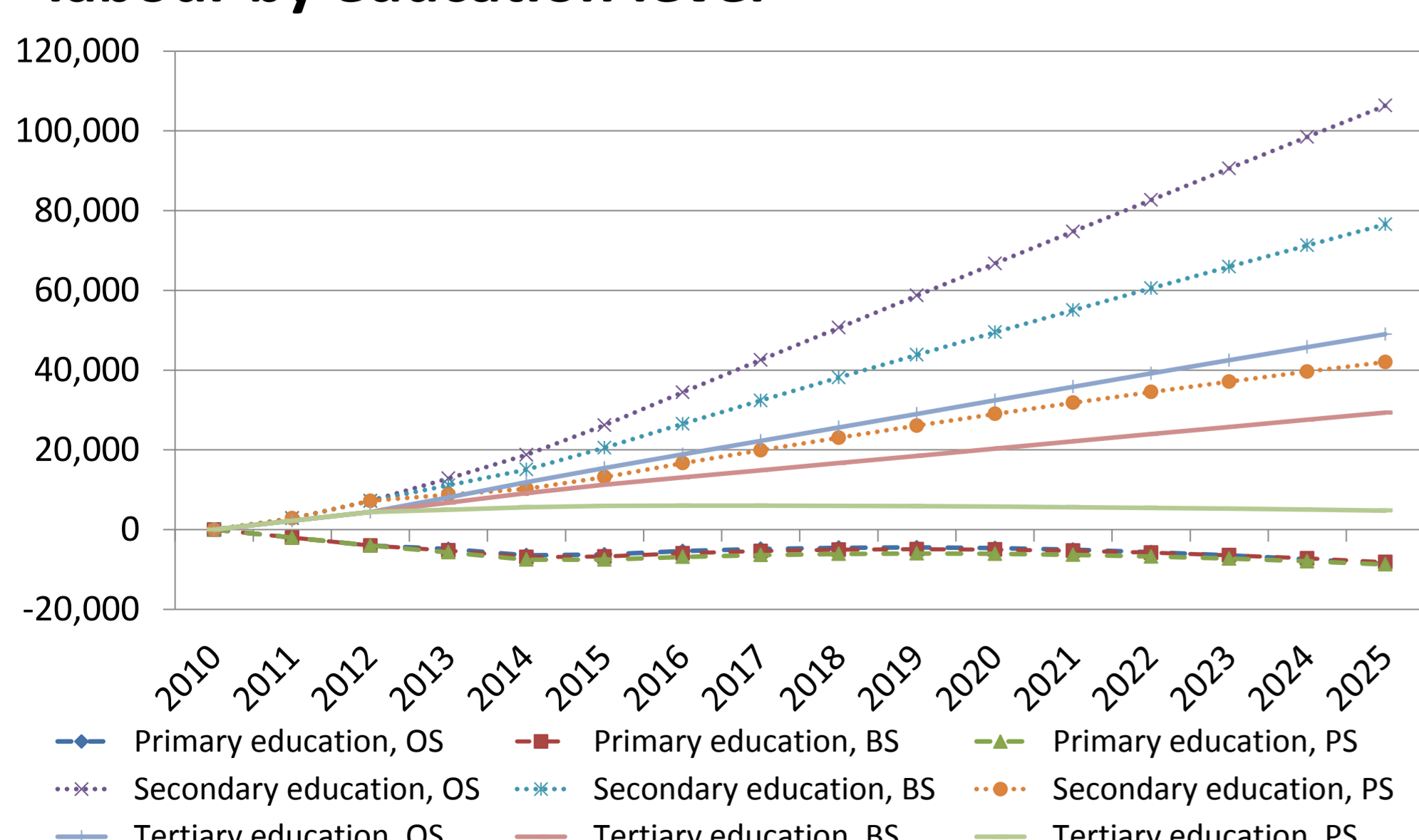


Figure 2: Relative replacement, expansion and total avg. Demand by sectors, 2016-2020

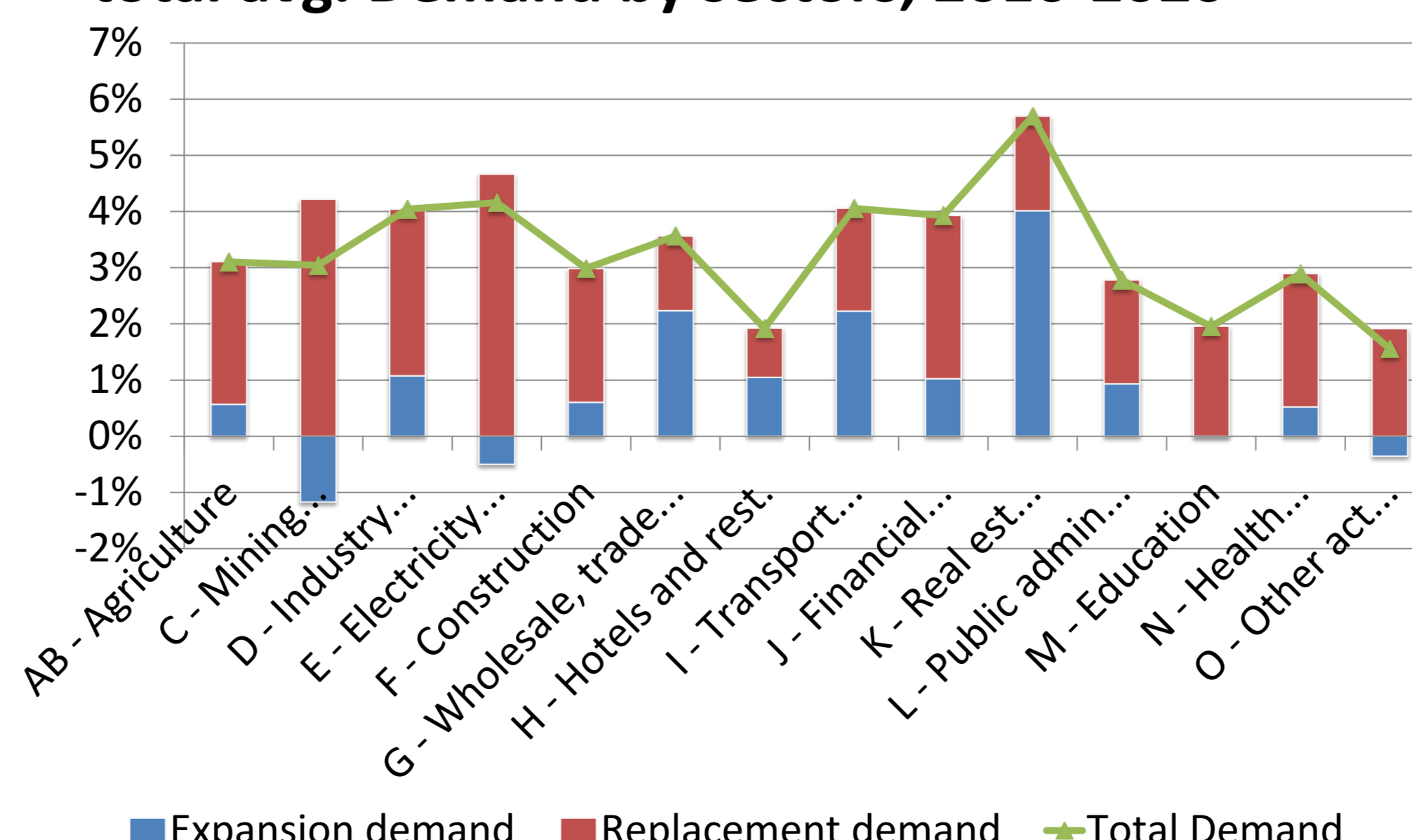
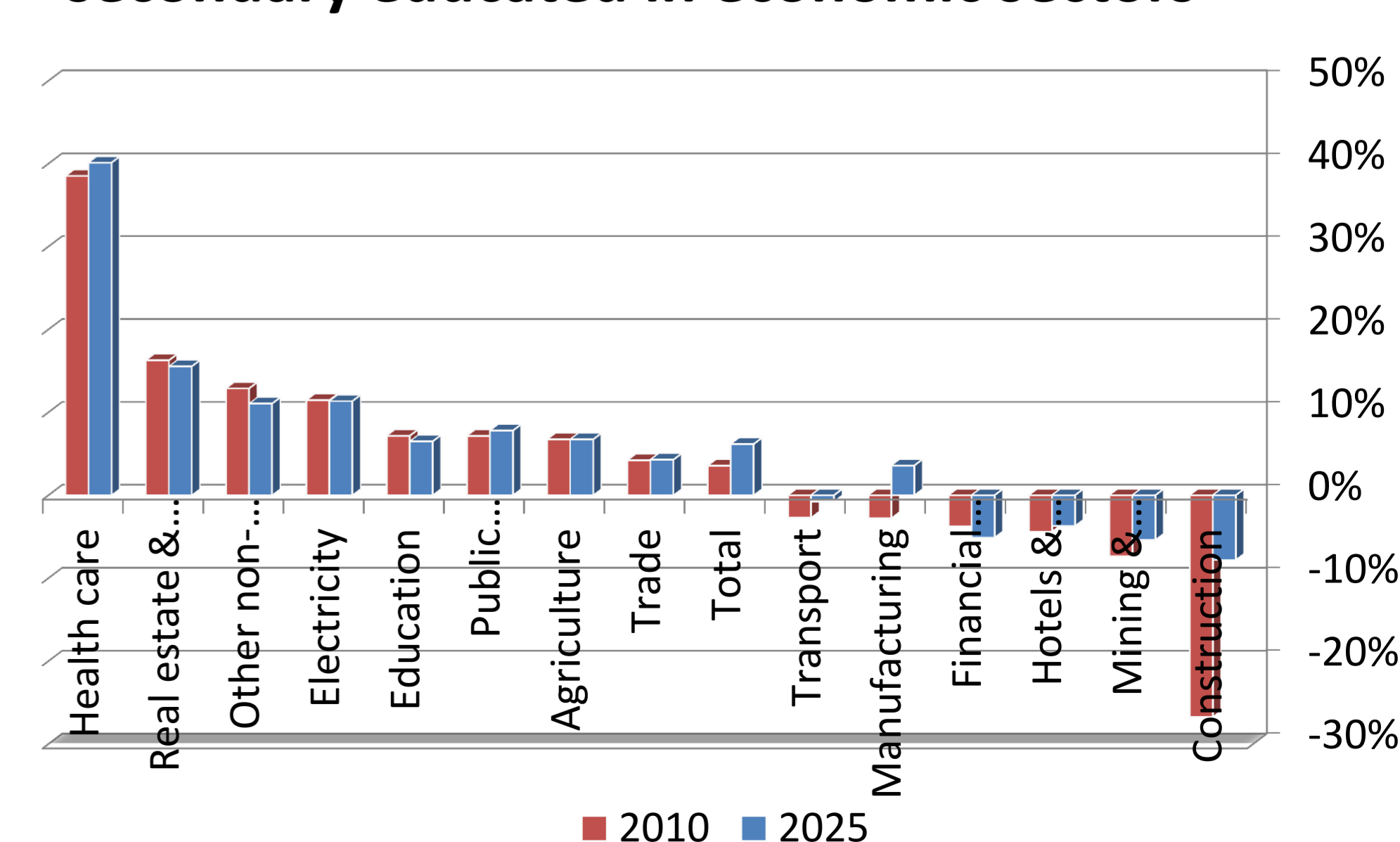


Figure 3: Indicator of skills mismatch of secondary educated in economic sectors



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