

UNEMPLOYMENT TRANSITIONS AND THE ROLE OF MINIMUM WAGE

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Επιχειρησιακό Πρόγραμμα
Ανάπτυξη Ανθρώπινου Δυναμικού,
Εκπαίδευση και Διά Βίου Μάθηση
Ειδική Υπηρεσία Διαχείρισης
Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης



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Aim of the paper

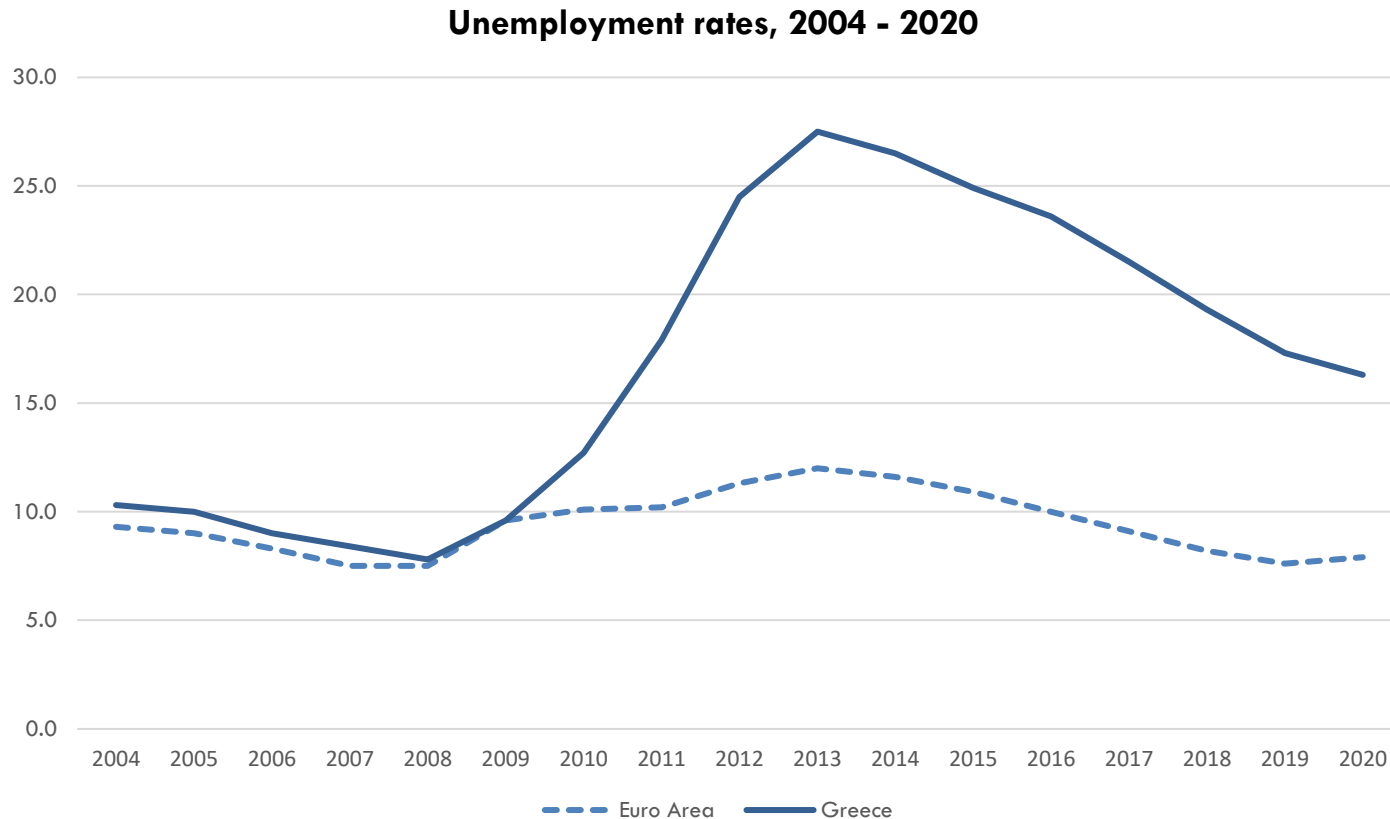
- Greece experienced the deepest and longest crisis recorded in an OECD country in the postwar period.
- Unemployment climbed up to 28% (almost tripled in 4 years).
- **Aim of the paper:** To examine the determinants of the unemployment dynamics and the impact of the minimum wage on the probability of making a transition into and out of unemployment.

Background

- In 2010 the country was cut off from international capital markets.
- Three Economic Adjustment Programs to avoid unruly default:
 - 2010, 2012 & 2015
- Eventually public finances were put in order, but Greece experienced the deepest crisis recorded in an OECD country in the postwar period
- GDP -25%, Unemployment rate 28%, Disposable income -42%, etc
- To close the fiscal gap expenditures were cut and taxes were raised

Background

- Sharp increase in unemployment since 2009 as a result of fiscal adjustment.



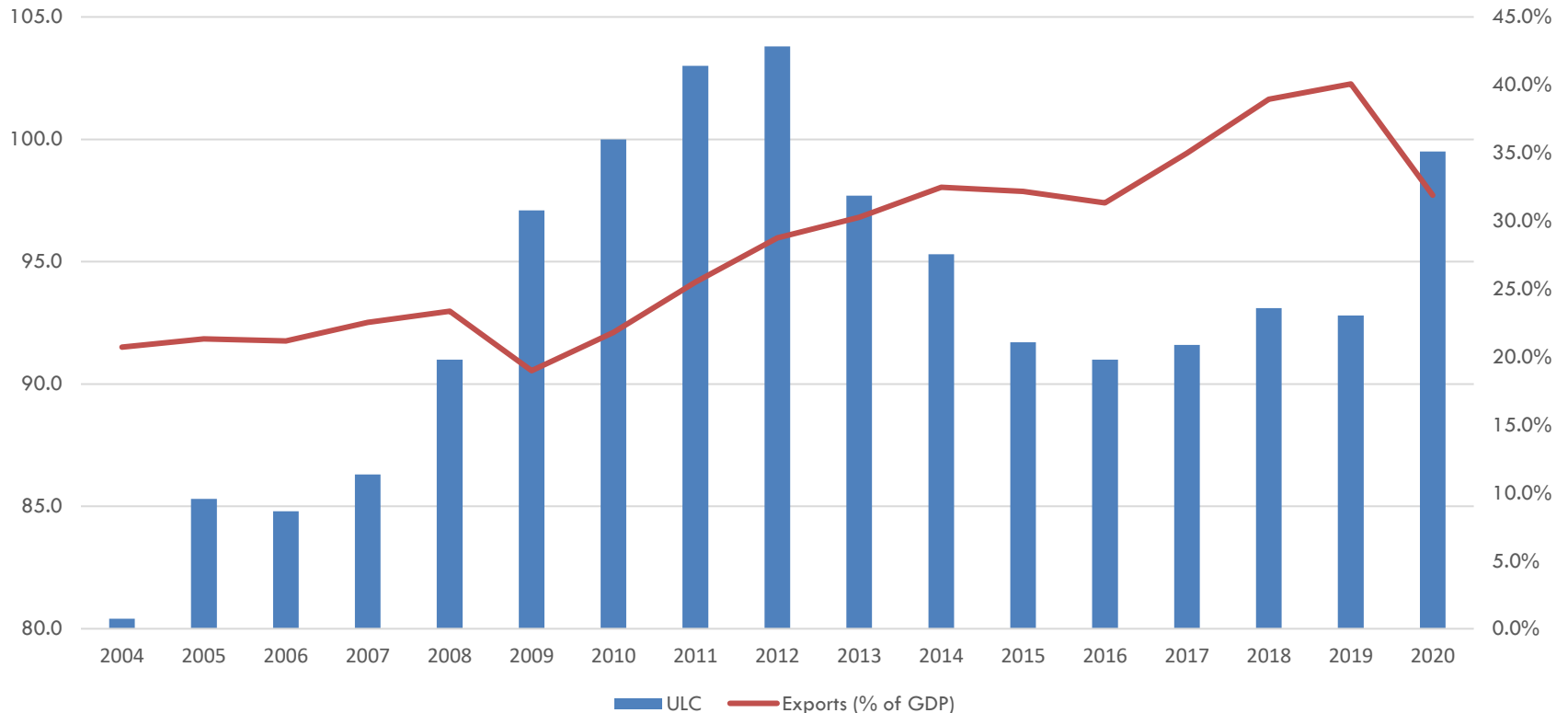
Background

- A number of labour market reforms have been adopted.
- Reduce rigidities, restore competitiveness and ease the entry to the formal labour market.
- Main labour market reforms:
 - i. Framework of collective bargaining
 - ii. Minimum wage setting system and [2012 minimum wage cut](#) (+ youth subminimum)
 - iii. Employment protection legislation
 - iv. Enhance flexible forms of employment

Background

- Labour market reforms contributed to restore competitiveness but partially to export-driven growth.

ULC vs Exports (% of GDP), 2004 - 2020



Paper contribution

- Paper contribution lies on two fields:
 - Unemployment/employment dynamics
 - Economic of the minimum wage
- Combination of individuals characteristics and macro control variables (minimum wage, Kaitz index, GDP growth).

Literature review

- Large part of the relevant literature on the relation between past unemployment experience and its impact on the unemployment probability.
 - State dependence
- Most of the relevant papers focus on individual characteristics.
 - Bradley et al. (2003), Gang (2003): skills
 - Uhlendoff and Zimmermann (2014): nationality

Literature review

- Papers focusing on the phases of economic cycle:
 - Cockx and Dejemeppe (2005)
 - Shimer (2012)
 - Garcia and van Soest (2017)

- Papers focusing on minimum wage:
 - Most of studies use aggregate data.
 - Minimum wage in Greece: Yannelis (2014), Kakoulidou et al. (2018)

Data and Methods

- Rotating panel data of the Greek Labour Force Survey for the period 2004-2019.
 - 4,320,662 obs corresponding to 832,542 individuals.
- Transitions of the same individuals between quarters.
- Disadvantage: short observation period.
 - The same individual can stay in the sample up to 6 consecutive quarters.

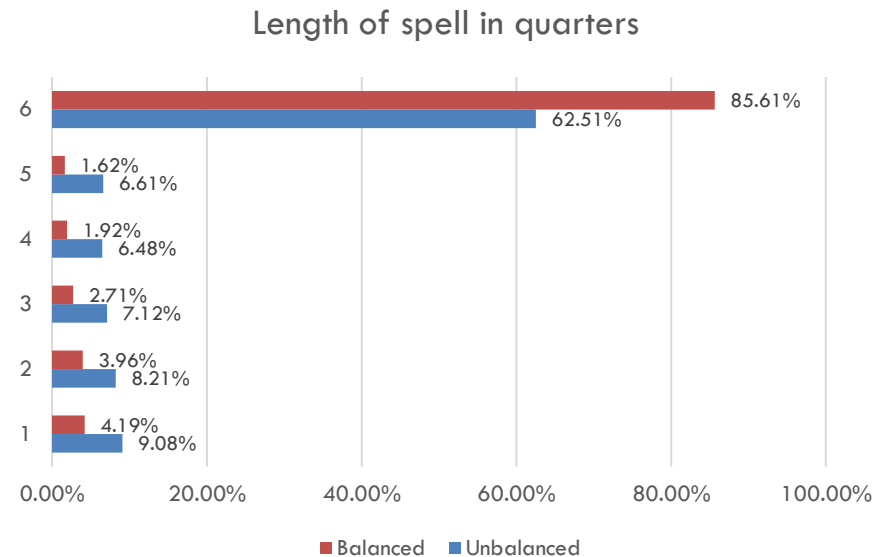
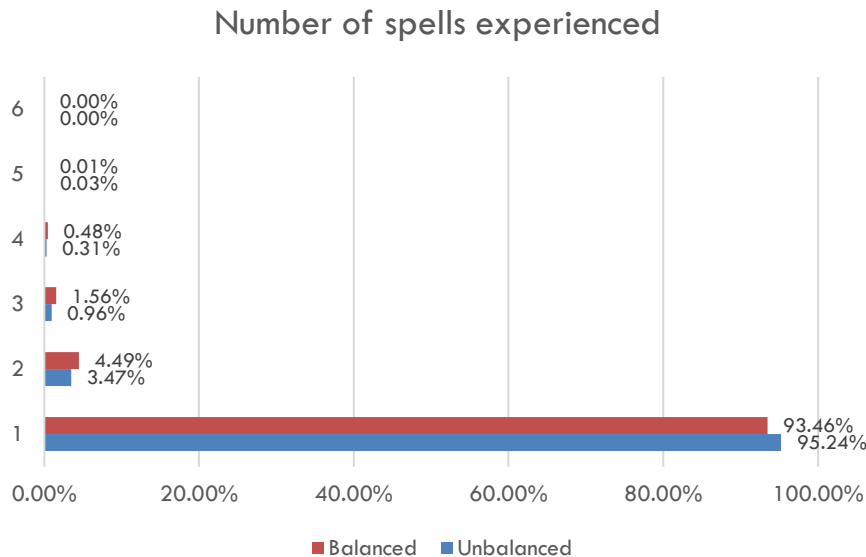
Data and Methods

- Spell analysis: unbalanced and balanced panel (only those who participate in the sample for six consecutive quarters).
- Logit analysis: only the unbalanced panel.
- To predict the transition probability, binary multivariate logistic model:

$$Pr(y_{it}=1)=F(\beta x_i)=p_{it}$$

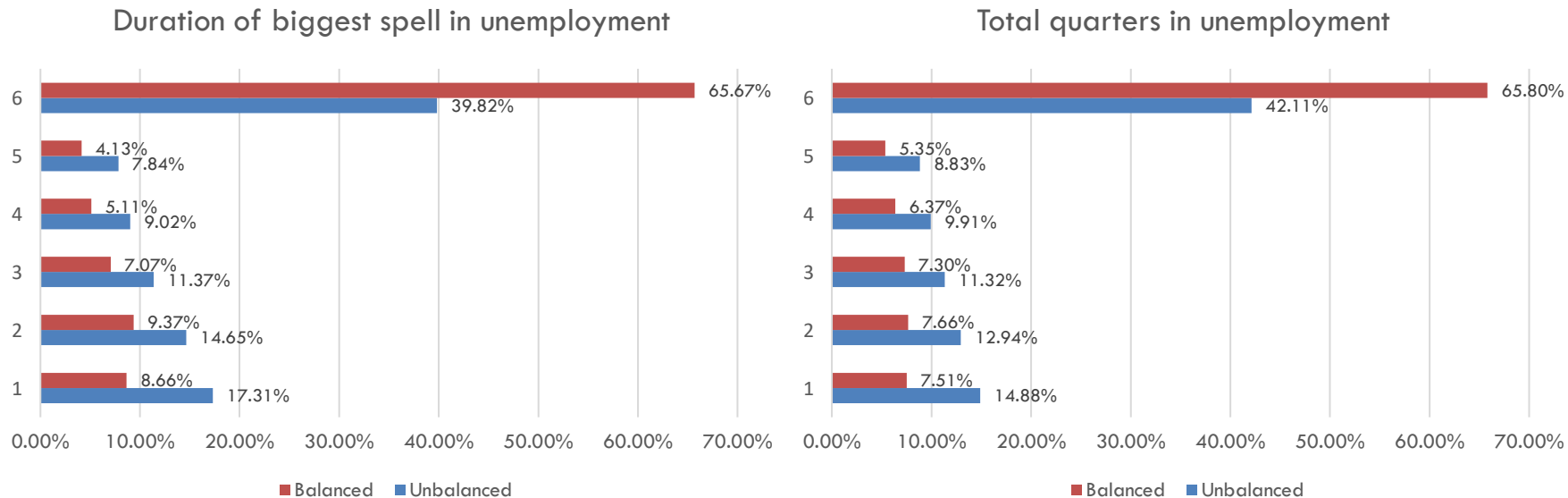
- Control for individuals' characteristics, macroeconomic and regional determinants and unobserved heterogeneity.

Results – Spell analysis



- Low labour market mobility
 - Low number of spells experienced.
 - High length of spells

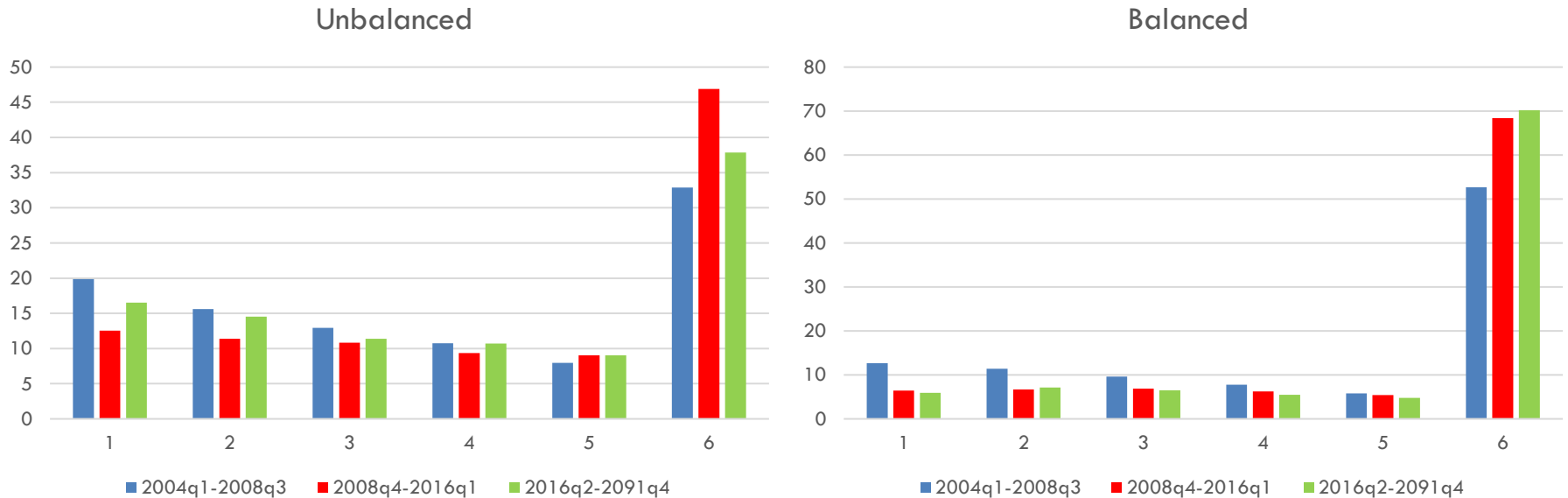
Results – Spell analysis



- Unemployment is a persistent status.
- Especially for the unbalanced panel, unemployment is either permanent or temporary.

Results

Spell analysis in different periods



- Regardless the period, most of individuals have experienced six quarters in unemployment.
- During the crisis, the duration of unemployment spells increased.

Results

Logit analysis for unem. entries

| | Specification 1 | | | | Specification 2 | | | |
|-------------------------|-----------------|----------|----------|----------|-----------------|----------|----------|----------|
| | Total Period | Period 1 | Period 2 | Period 3 | Total Period | Period 1 | Period 2 | Period 3 |
| per_dif_minwage | 1.00 | 1.05 | 0.98*** | 0.98 | 0.99 | 1.06 | 0.98 | 0.95 |
| per_dif_minwage # 15-24 | . | . | . | . | 1.01 | 1.01 | 1.00 | 1.03 |
| per_dif_minwage # 25-34 | . | . | . | . | 1.01 | 1.01 | 1.00 | 1.09* |
| per_dif_minwage # 35-49 | . | . | . | . | 1.00 | 0.99 | 1.00 | 1.02 |

- Using the $\Delta(\text{minimum wage})\%$ as the main control variable:
 - No statistically significant impact on unemployment entries.
 - Exception: the 'crisis' period (Period 2).
- Other individual characteristics (gender, age, nationality etc.) play more important role.
- Higher growth rate implies a lower probability of making a transition from employment to unemployment.

Results

Logit analysis for unem. entries

| | Specification 1 | | | | Specification 2 | | | |
|---------------------------|-----------------|----------------------|------------------|--------------------|-----------------|----------------------|------------------|--------------------|
| | Total Period | Period1 (pre-crisis) | Period2 (crisis) | Period3 (recovery) | Total Period | Period1 (pre-crisis) | Period2 (crisis) | Period3 (recovery) |
| 15-24 | 4.17 | 3.59*** | 5.98 | 4.23*** | 4.17 | 3.78 | 5.20*** | 4.22*** |
| 25-34 | 2.83*** | 2.63*** | 3.63*** | 2.58*** | 2.82*** | 2.73*** | 3.25*** | 2.54*** |
| 35-49 | 1.93*** | 1.99*** | 2.16*** | 1.57** | 1.93*** | 2.08*** | 2.05*** | 1.57** |
| Female | 2.40*** | 2.59*** | 2.30*** | 2.31*** | 2.40*** | 2.72*** | 2.13*** | 2.32*** |
| Married | 0.57*** | 0.45*** | 0.71* | 0.45** | 0.57*** | 0.44*** | 0.74 | 0.45*** |
| Female # Married | 0.76*** | 1.01 | 0.58*** | 1.03 | 0.76*** | 1.01 | 0.61*** | 1.03 |
| Less than primary/Primary | 0.66 | 0.42*** | 0.83 | 0.65 | 0.66 | 0.41 | 0.84 | 0.65 |
| Lower Secondary | 1.37 | 1.39 | 1.63 | 0.81 | 1.37 | 1.41 | 1.54 | 0.81 |
| Post-secondary | 0.14*** | 0.20*** | 0.11*** | 0.10*** | 0.14*** | 0.19*** | 0.14* | 0.10*** |
| Tertiary | 0.79*** | 0.65 | 0.99 | 0.55*** | 0.79*** | 0.64*** | 1.00 | 0.55*** |
| Post-tertiary education | 0.83** | 0.69 | 0.90 | 0.64*** | 0.83** | 0.69** | 0.90 | 0.64*** |
| Immigrant | 0.45 | 0.89 | 0.42 | 0.31 | 0.45 | 0.89 | 0.45 | 0.31 |

Results

Logit analysis for unem. exits

| | Specification 1 | | | | Specification 2 | | | |
|-------------------------|-----------------|-------------------------|---------------------|-----------------------|-----------------|-------------------------|---------------------|-----------------------|
| | Total Period | Period1 (pre-crisis) | Period2 (crisis) | Period3 (recovery) | Total Period | Period1 (pre-crisis) | Period2 (crisis) | Period3 (recovery) |
| per_dif_minwage | 1.04*** | 1.07*** | 1.03*** | 1.04*** | 1.02*** | 1.02 | 1.03** | 1.05** |
| per_dif_minwage # 15-24 | . | . | . | . | 1.03** | 1.08*** | 1.01 | 1.00 |
| per_dif_minwage # 25-34 | . | . | . | . | 1.02 | 1.05* | 1.01 | 0.99 |
| per_dif_minwage # 35-49 | . | . | . | . | 1.01 | 1.05* | 1.01 | 0.99 |

- In contrast with the theoretical predictions:
 - Positive impact on unemployment exits.
 - Higher change in the minimum wage leads to higher unemployment exits (?).
- Stronger effects of individual – level variables.
- Increased growth rate implies a higher probability of finding a job (unemployment) exit.
- Increased growth rate implies a higher probability of exiting unemployment.

Results

Logit analysis for unem. exits

| | Specification 1 | | | | Specification 2 | | | |
|---------------------------|-----------------|----------------------|------------------|--------------------|-----------------|----------------------|------------------|--------------------|
| | Total Period | Period1 (pre-crisis) | Period2 (crisis) | Period3 (recovery) | Total Period | Period1 (pre-crisis) | Period2 (crisis) | Period3 (recovery) |
| 15-24 | 1.51*** | 1.01 | 1.35*** | 1.76*** | 1.52*** | 0.99 | 1.36*** | 1.76*** |
| 25-34 | 1.71*** | 1.20* | 1.61*** | 1.91*** | 1.71*** | 1.19* | 1.62*** | 1.92*** |
| 35-49 | 1.48*** | 1.16* | 1.49*** | 1.60*** | 1.48*** | 1.15 | 1.50*** | 1.61*** |
| Female | 0.71*** | 0.50*** | 0.76*** | 0.92 | 0.71*** | 0.50*** | 0.76*** | 0.92 |
| Married | 1.72*** | 1.74*** | 1.62*** | 1.89*** | 1.72*** | 1.74*** | 1.62*** | 1.89*** |
| Female # Married | 0.54*** | 0.54*** | 0.53*** | 0.49*** | 0.54*** | 0.54*** | 0.53*** | 0.49*** |
| Less than primary/Primary | 1.30*** | 1.56*** | 1.25* | 1.10 | 1.30*** | 1.56*** | 1.25* | 1.10 |
| Lower Secondary | 1.31 | 2.57*** | 0.99 | 0.28* | 1.31 | 2.56*** | 0.99 | 0.28* |
| Post-secondary | 1.10 | 1.29 | 1.02 | 0.52 | 1.10 | 1.28 | 1.02 | 0.52 |
| Tertiary | 1.33*** | 1.34 | 1.37** | 1.24 | 1.33*** | 1.34 | 1.37** | 1.25 |
| Post-tertiary education | 1.12 | 1.42* | 1.08 | 1.00 | 1.12 | 1.42* | 1.08 | 1.00 |
| Immigrant | 0.52*** | 0.50*** | 0.52*** | 0.42*** | 0.52*** | 0.51*** | 0.52*** | 0.42*** |

Conclusions

- The Greek labour market was a low mobility market.
- The crisis and the recovery period did not affect the prevailing model.
- As expected, duration of unemployment increased during the crisis.

Conclusions

- No causal relationship between minimum wage changes and transitions into unemployment.
- Transitions out of unemployment seem to be slightly positively affected by increases in minimum wage.
- Individual-level characteristics both observed and unobserved play an important role in making a transition into or out of unemployment.

Conclusions

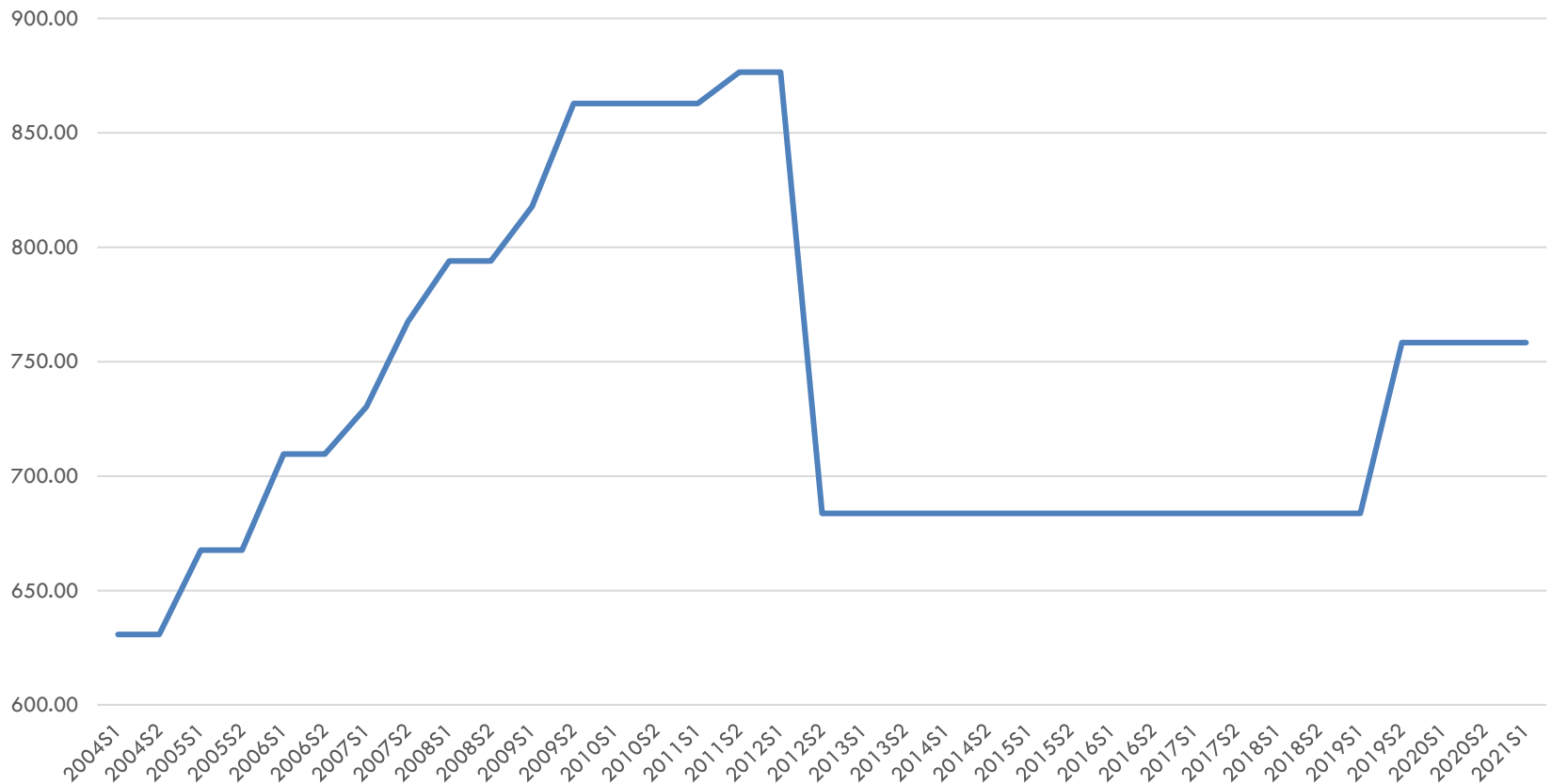
➤ Policy implications:

- Unemployment entries are not driven by minimum wage.
- Re-think the effectiveness and scope of sub-minimum wage policies
- Large differences across regions: differences in labour demand due to seasonal characteristics.
- Facilitate labour market mobility through investment in training, re-skilling and up-skilling.

*Thank you very much
for your attention!*

Minimum wage data

Minimum wage in Greece (EUR), 2004 - 2019.



Data on income and unemployment

