The demand for human capital repatriation

(Some theory and) evidence from a DCE with Greek employers

V. Monastiriotis (LSE), E. Kyrkopoulou (Yale), I. Laliotis (UoPatras), G. Melios (LSE)

Motivation

Greece's Brain Drain → Brain Gain Challenge

- Over **220,000 young, educated Greeks** emigrated during the 2009–2020 crisis.
- National efforts now aim to **reverse the "brain drain"** via return migration incentives.
- But: **Do Greek employers actually value international experience and education?**

A Policy Blind Spot

- Most *brain-gain* literature/policies focus on **attracting returnees**, **not** on how **employers respond**.
- If employers **discount** foreign-acquired skills, such efforts may be **self-defeating**.
- Conversely, if they **reward** them, returnees could become drivers of innovation and productivity.
- But if employers reward such skills, then why should policy intervene? What is the **market failure** that needs correcting??!!

Considerations

Brain (drain and) ‘regain’ as an issue of *supply*

Significant public attention

- ‘Να γυρίσουν τα παιδιά μας’ / ‘να επιστρέψουν οι νέοι’ – bring ‘talent’ back
- Cross-party agreement – from Tsipras to Mitsotakis...
- Underpinned by a literature on the immiserising effects of ‘brain drain’...
- ...and the positive *spillover* effects of ‘brain circulation’ (Hausmann & Nedelkoska, 2018, EER)

Significant policy effort

- Italy’s "Rientro dei Cervelli" (Return of the Brains): tax incentives for employees and self-employed, including 90% tax exemption Teachers and Researchers (Law 34/2019, 78/2010)
- Greece: 50% tax exemption for first 7 years of relocation (currently considering expansion); employment fairs (Rebrain GR: matching / ‘dating’ for interested [very large] employers)

→ *A **subsidy** to (a small number of) interested firms?*

→ *Is there an **information problem**? (esp. for very large employers!)*

Considerations

But what about the *demand? Three 'S'*

Skills

- Perceived accumulated advantages regarding hard and soft skills
  - Mindsets / work ethic
  - Familiarity with / access to international networks
  - Knowledge of advanced procedures / techniques
- Depletion of local-specific knowledge
  - Knowledge of the 'πιάτσα' and 'how things work'
  - Misfit to local culture (hierarchical relations, work patterns)

Signalling

- Successful career abroad as a signal of quality and commitment / career orientation

(Self-)sorting

- Decision / interest to return as a 'preference' for home…
- …versus as a cost-benefit calculus based on low progression/success in foreign market

Considerations

But what about the *demand?*

The nature of the 'product'

Production function

- Dependence on local rules and procedures / knowledge of the system
- Firm size, degree of worker autonomy, extent of demarcation of roles

Extroversion

- If serving local or international market
- Supplier networks, importance of international links

Market structure

- Degree of competition, and nature (price vs quality)
- Nature of wage-setting (e.g., if on MW, then no need for skills)

Sneak Peak

What This Study Does

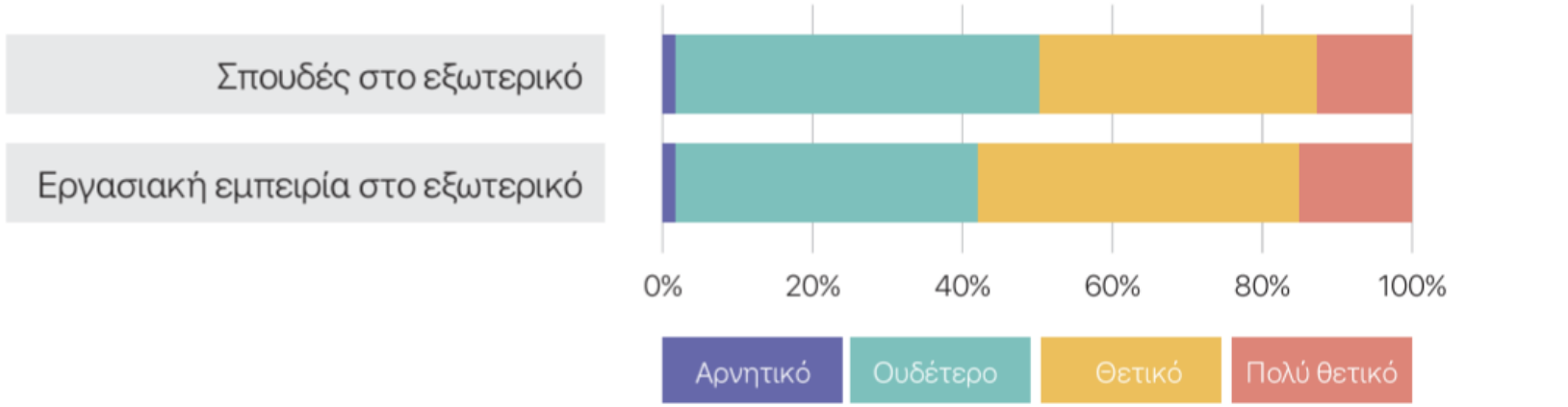
- Draws on a **large survey** of employers from the Adecco client-list and the EBEA/ACCI register
- Uses a **conjoint experiment [focus groups; test runs] with 407 of them**, to test preferences across:
  - Place of studies and **place of work experience** (Greece vs 'West')
  - Skill Signals (Analytical & Social) and Gender (discrimination?)
  - Relatedness ('συνάφεια') of studies and of sector (vs) occupation
- Provides ***original*** **micro-evidence** on **how hiring choices align** (or not) with the goals of brain-gain policy
- (Tries to) develop some theoretical frame for understanding/'placing' the empirical results

Why It Matters

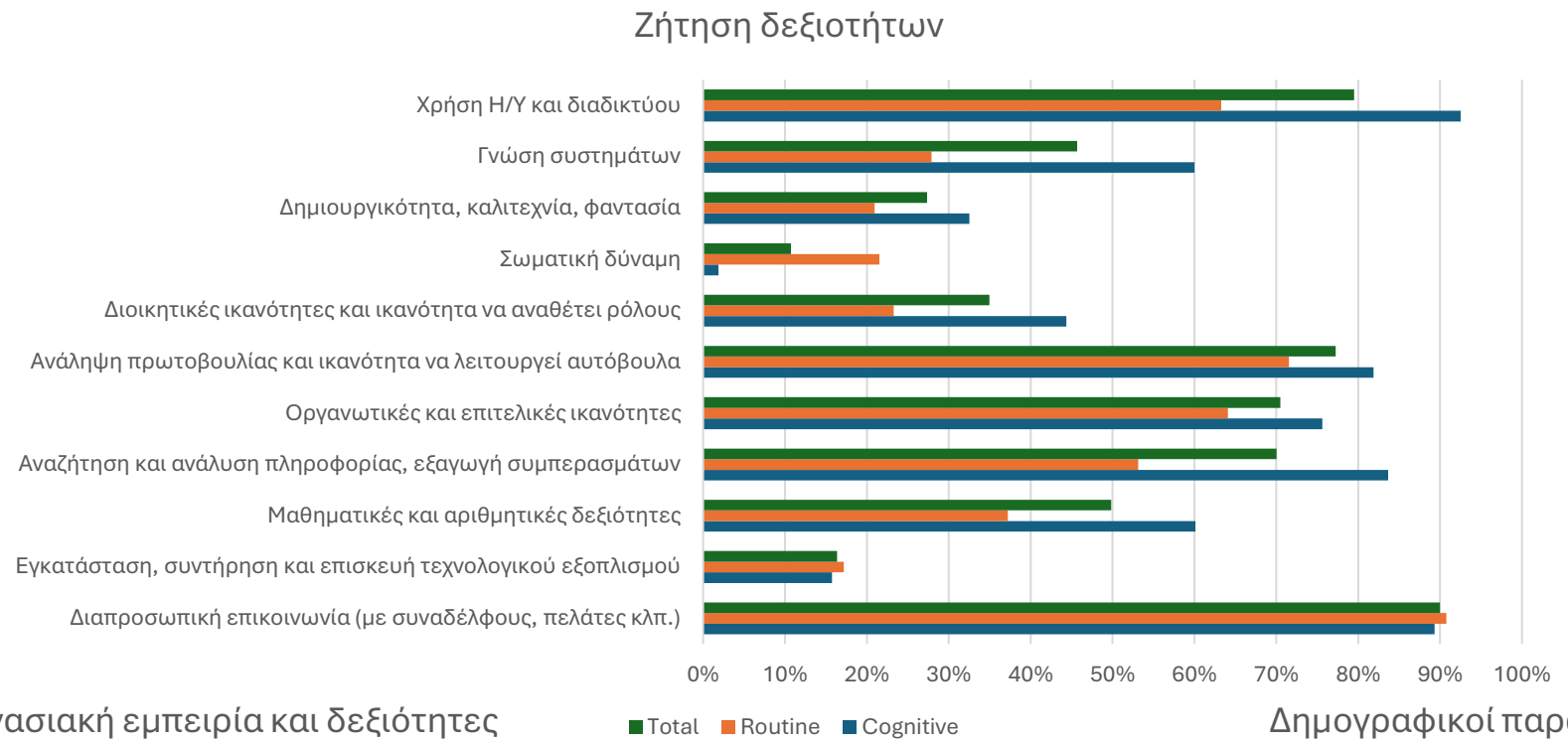
- Helps explain **real-world *demand-side* reintegration barriers** for returnees
- Informs **policy design**: effective talent repatriation requires **both pull factors and demand-side *readiness*** *(e.g., policies to strengthen demand for returnees?)*
- Offers **new insights into hiring discrimination, skill valuation, and human capital signalling** in a 'vibrantly recovering' / transforming post-crisis economy

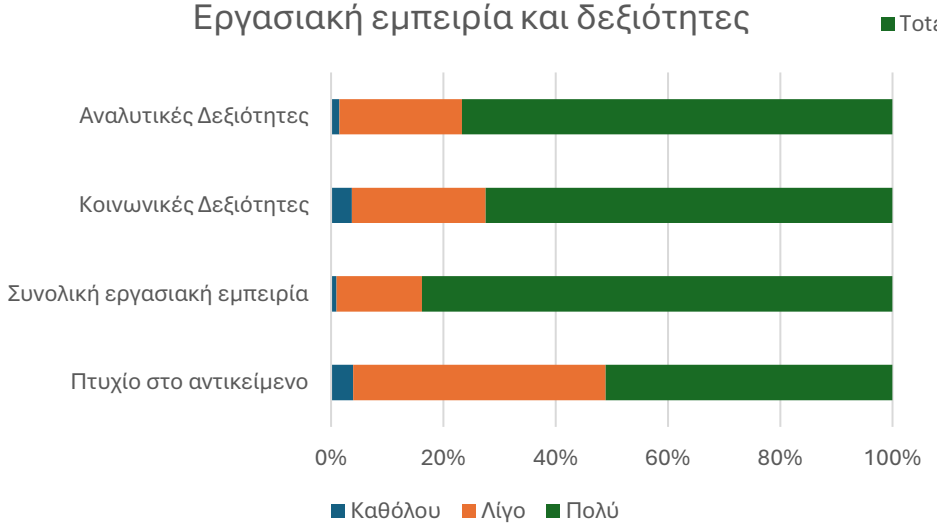
Sneak Peak

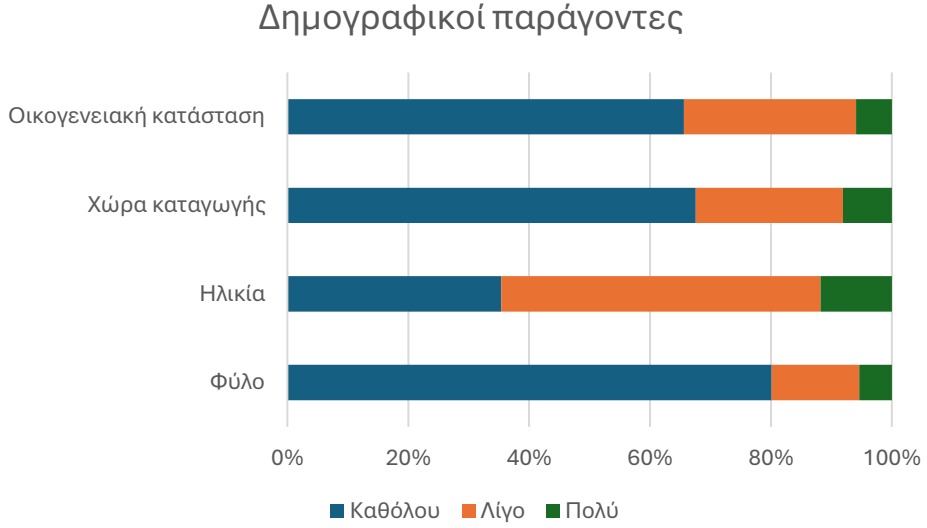
1.1 Πρόσληψη υποψηφίων σε θέσεις μέτριας ή υψηλής εξειδίκευσης: η εργασιακή εμπειρία ή η εκπαίδευση στο εξωτερικό θεωρείται προσόν από τους εργοδότες στο στάδιο της πρόσληψης;



Some background descriptives

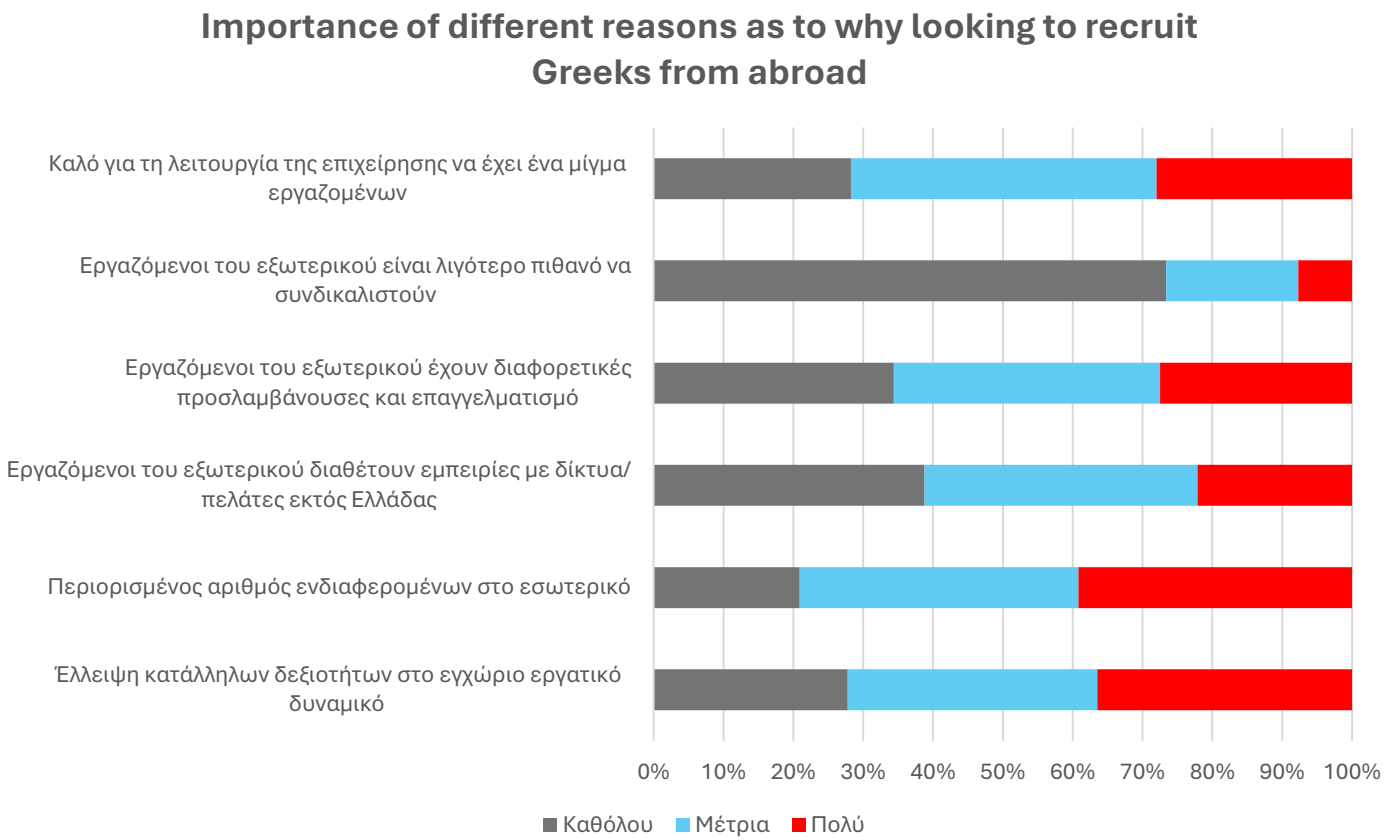






Some background descriptives

Some background descriptives



Experimental Design

- We used a D-optimal fractional factorial design with 6 randomized choice sets per respondent

Attribute	Levels
Gender	Male
Analytical Skills	Satisfactory Excellent

	Άτομο Α	Άτομο Β
Φύλο	Άνδρας	Γυναίκα
Πανεπιστημιακές σπουδές	Ελλάδα	Βόρεια / Δυτική Ευρώπη
Αντικείμενο σπουδών	Σε συναφές αντικείμενο	Ακριβώς στο αντικείμενο
Εργάστηκε την τελευταία 5ετία	Ελλάδα	Ελλάδα
Τρέχουσα θέση εργασίας	Σε επιχείρηση του ίδιου κλάδου, αλλά σε διαφορετικό ρόλο	Σε ρόλο συναφή με τη θέση, αλλά σε διαφορετικό κλάδο
Κοινωνικές δεξιότητες	Εξαιρετικές	Εξαιρετικές
Αναλυτικές δεξιότητες	Ικανοποιητικές	Εξαιρετικές

Instructions

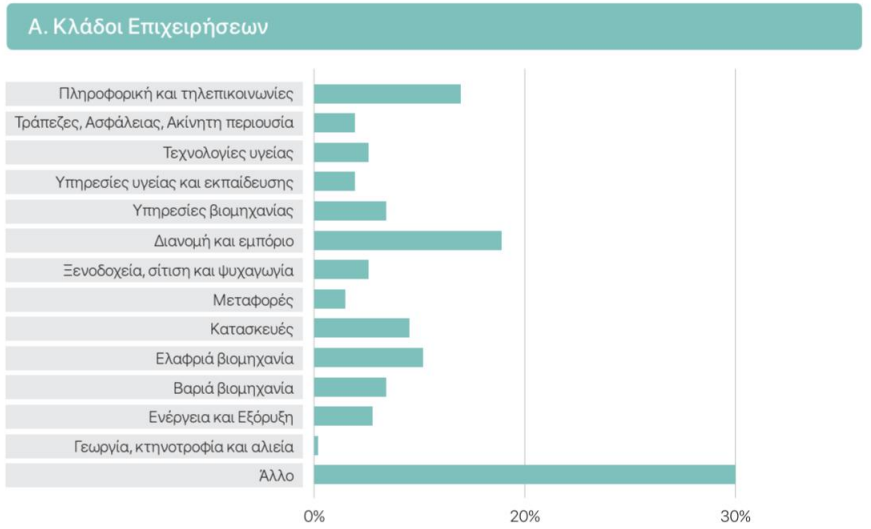
- Φανταστείτε ότι η επιχείρησή σας πρέπει να καλύψει άμεσα μία θέση πλήρους απασχόλησης για το επάγγελμα {YOUR CHOISE OF JOB}. Με βάση το βιογραφικό και τις συνεντεύξεις, έχετε καταλήξει σε δύο **άτομα ηλικίας 30 ετών, με 5 χρόνια εργασιακής εμπειρίας**. Οι καρτέλες που θα δείτε περιλαμβάνουν χαρακτηριστικά στα οποία τα άτομα ενδέχεται να διαφέρουν: φύλο, **συνάφεια** και τόπος σπουδών, τόπος και συνάφεια εργασίας, και **δεξιότητες** – τόσο **κοινωνικές** (επικοινωνία, οργάνωση, διαπραγμάτευση, ενσυναίσθηση, προσαρμοστικότητα, ομαδικότητα) όσο και **αναλυτικές** (επίλυση προβλημάτων, ανάλυση δεδομένων, αριθμητικές δεξιότητες). Θεωρείστε ότι τα δύο άτομα είναι ισάξια όσον αφορά χαρακτηριστικά που δεν εμφανίζονται στις καρτέλες.

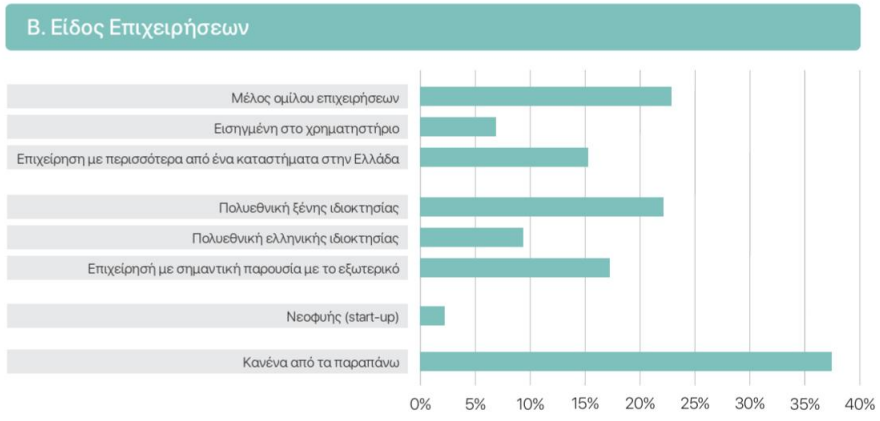
- All attributes are binary to reduce cognitive load and maximize statistical power (skpr package)
- Randomized block structure – total 33 unique sets (plus 3 repetitions for validity testing)

Data profile

- **Sample Size:** 407 employers run in the autumn of 2024
- **Sources:** 205 from EBEA, 202 from Adecco
- **Gender:** 49% Male, 51% Female
- **Age:** Mean = 46.1 (Min = 23, Max = 80)
- **Sectors Represented:**
  - Largest: Retail/Consumer Services (55), IT/Telecom (42), Other (121)
- **Positions:**
  - Owners/General Managers (145), HR Managers (96), Dept. Heads (86), Recruiters (17), Other (59)

- 32% of the sample has already tried to recruit someone from abroad before

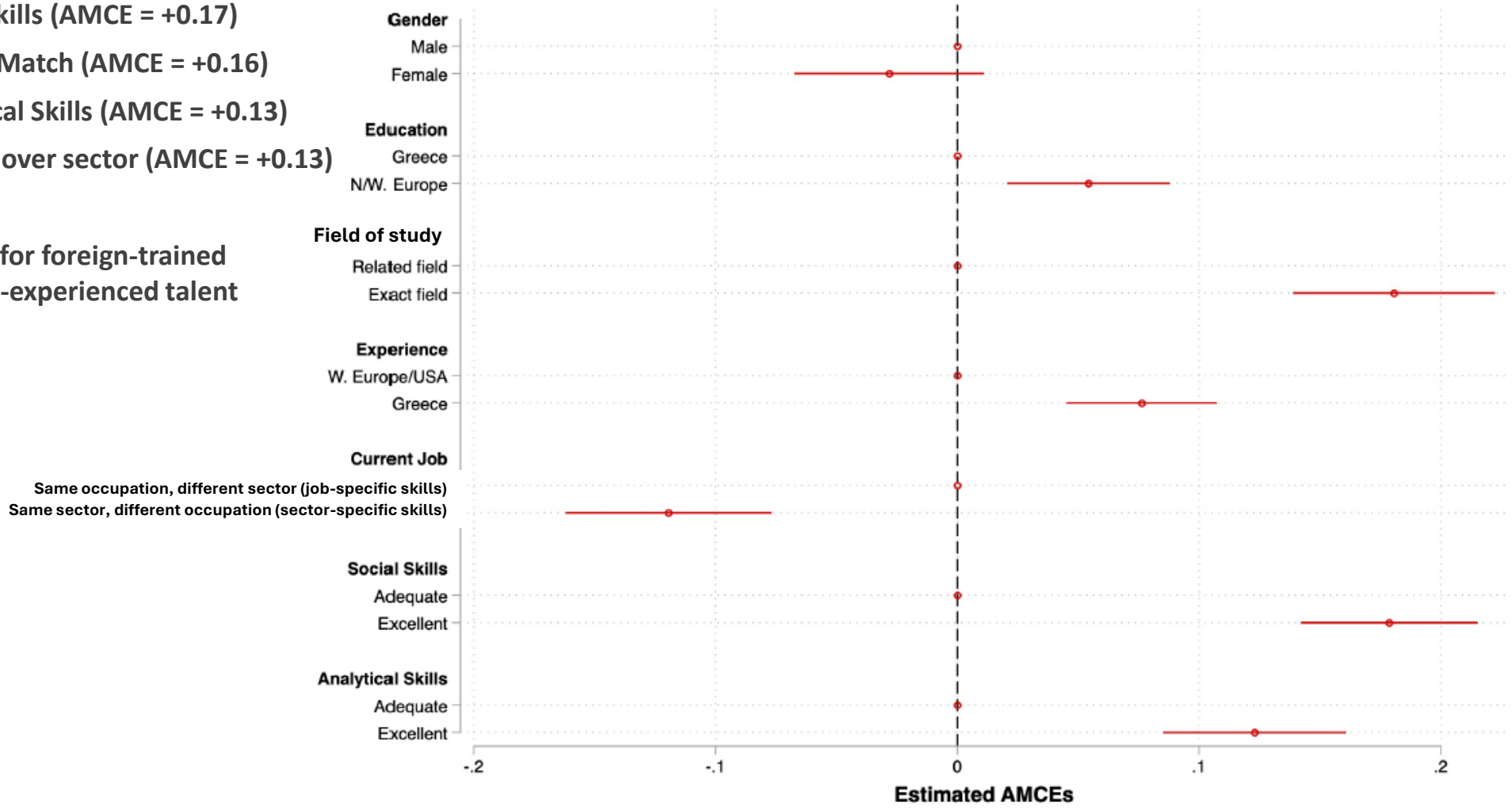




Main results – choice of candidates ('who would you hire')

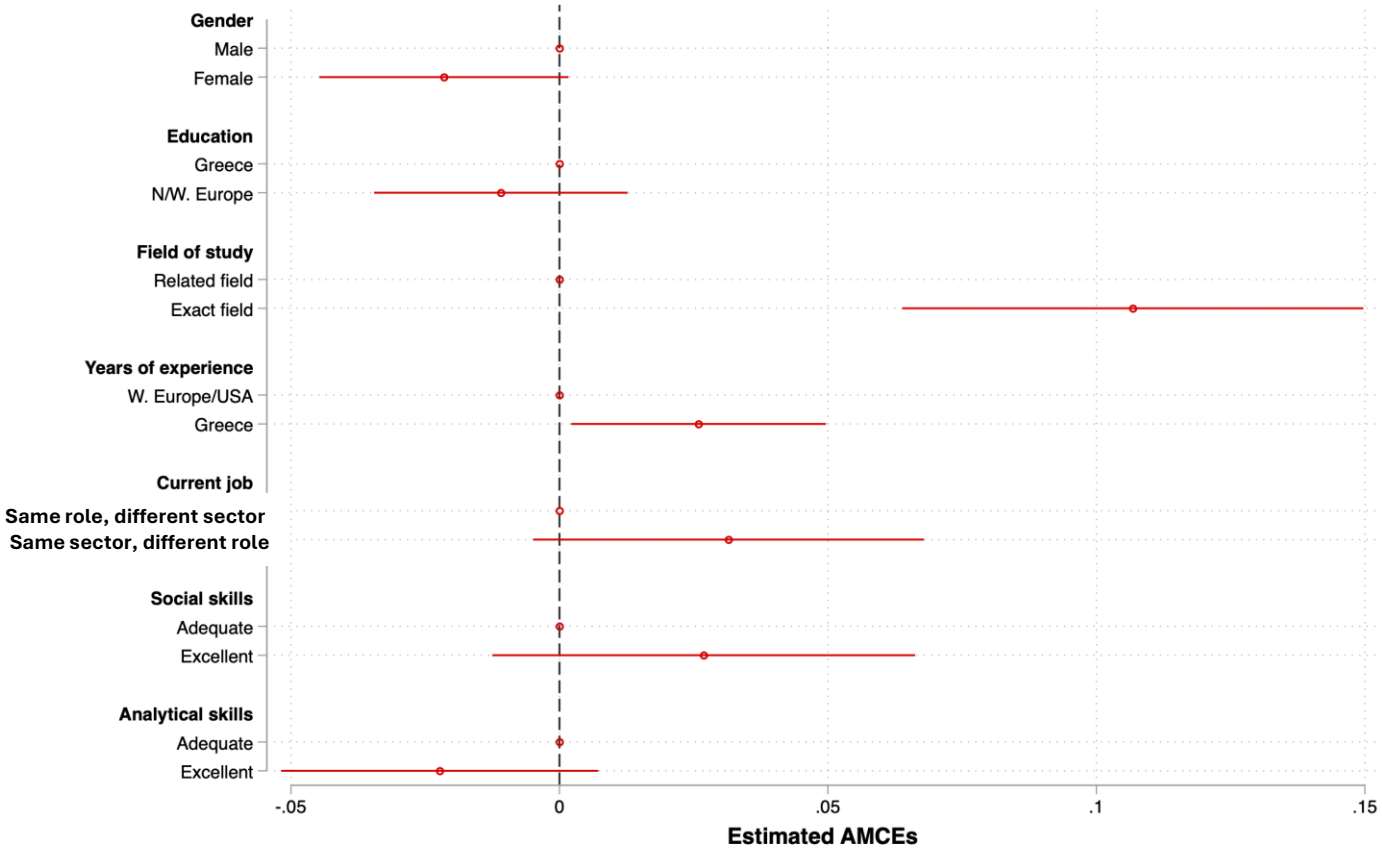
- **Strong preferences for :**
  - **Excellent Social Skills (AMCE = +0.17)**
  - **Perfect Field-Job Match (AMCE = +0.16)**
  - **Excellent Analytical Skills (AMCE = +0.13)**
  - **Job-specific skills over sector (AMCE = +0.13)**

→ **Plus, preference for foreign-trained but domestically-experienced talent**



Main results – intensive margin ('would you pay more')

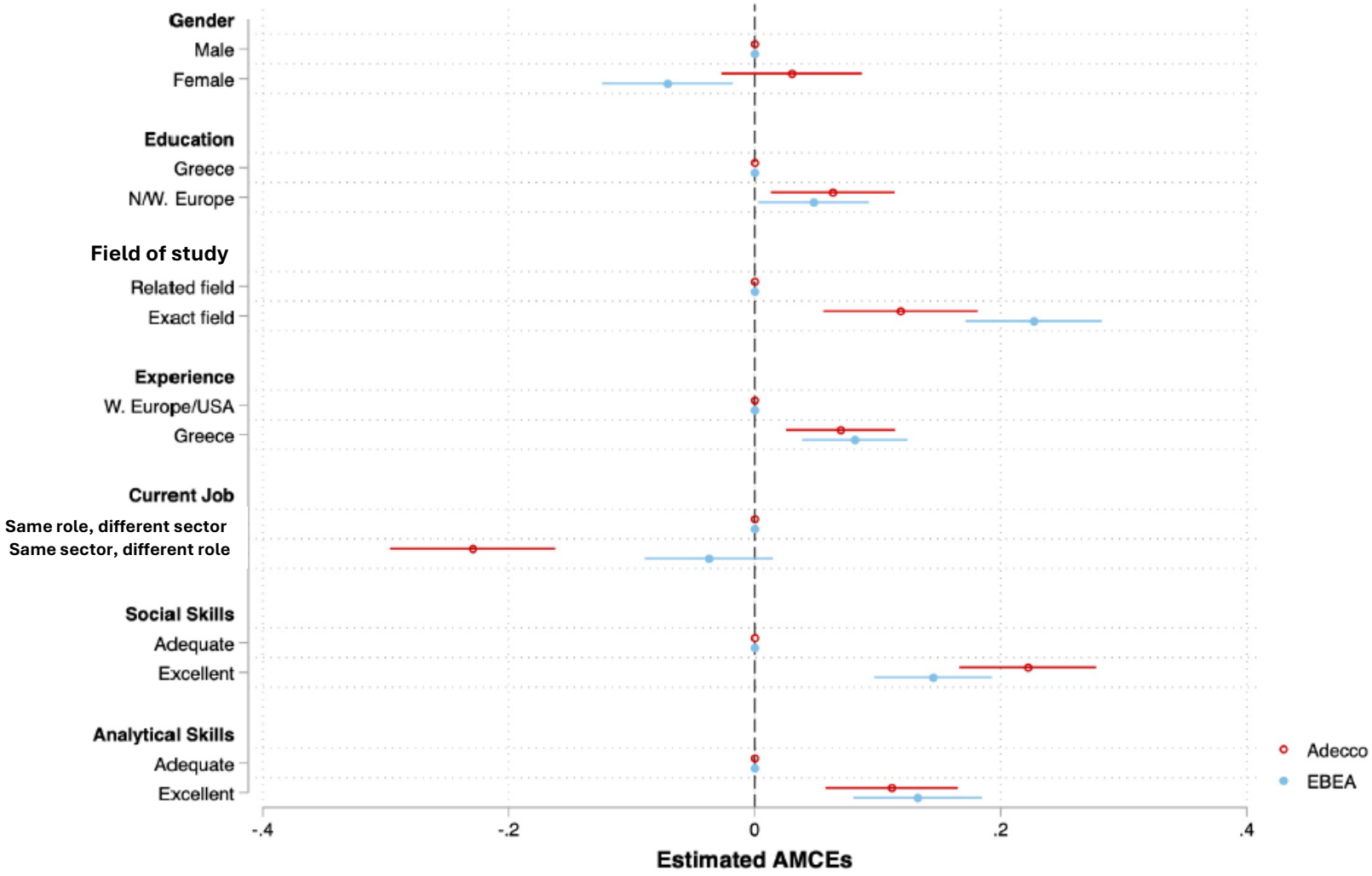
- Relatedness of education background to job requirements as the main factor
- Home-experience still comes out as significant ('παπούτσι από τον τόπο σου'…)
- All / most else fades away
  → preferences on the extensive margin, but "willingness to pay" is subdued…



Heterogeneity in Employer Preferences

Are Preferences Consistent Across sources?

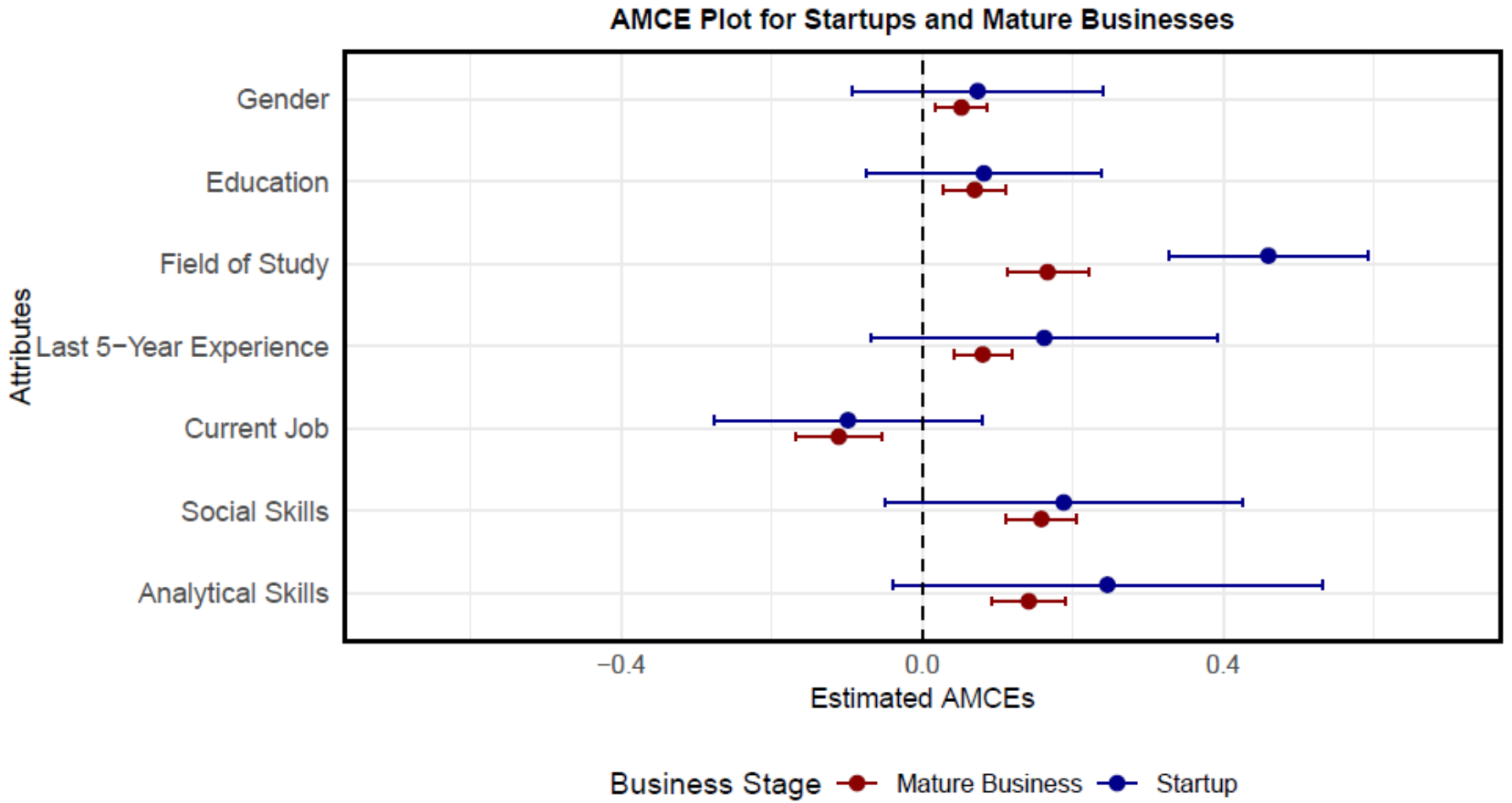
- Survey source: No meaningful differences between survey sources (Adecco vs. EBEA)



Heterogeneity in Employer Preferences

Are Preferences Consistent Across business maturity/size?

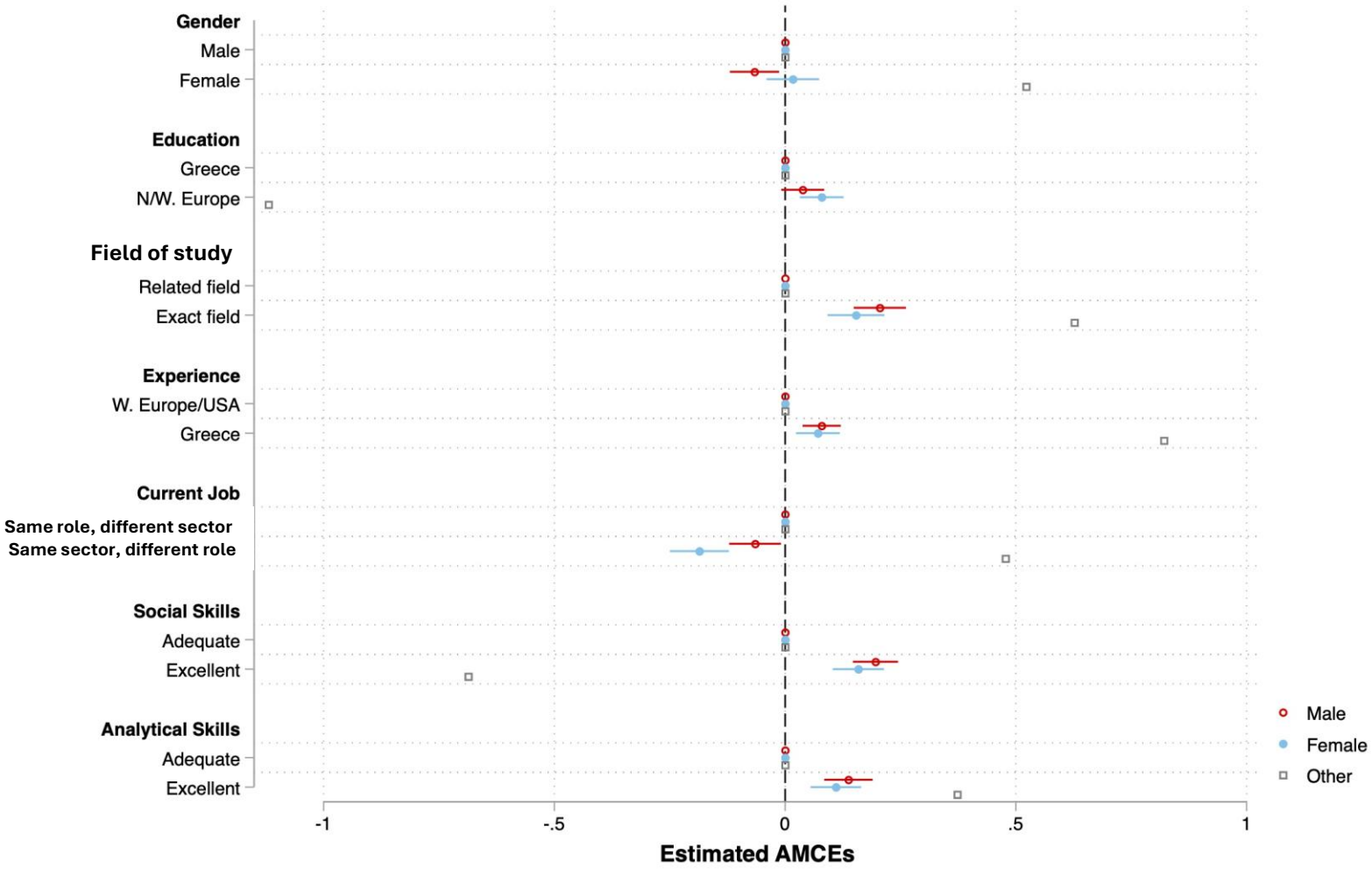
- Business Maturity:
  - Startups highly value field alignment (+0.46) and analytical skills (+0.24)
  - Mature firms favour social skills (+0.15)
  - Similar results if we see heterogeneous effects by business size



Heterogeneity in Employer Preferences

Are Preferences Consistent Across gender of respondent?

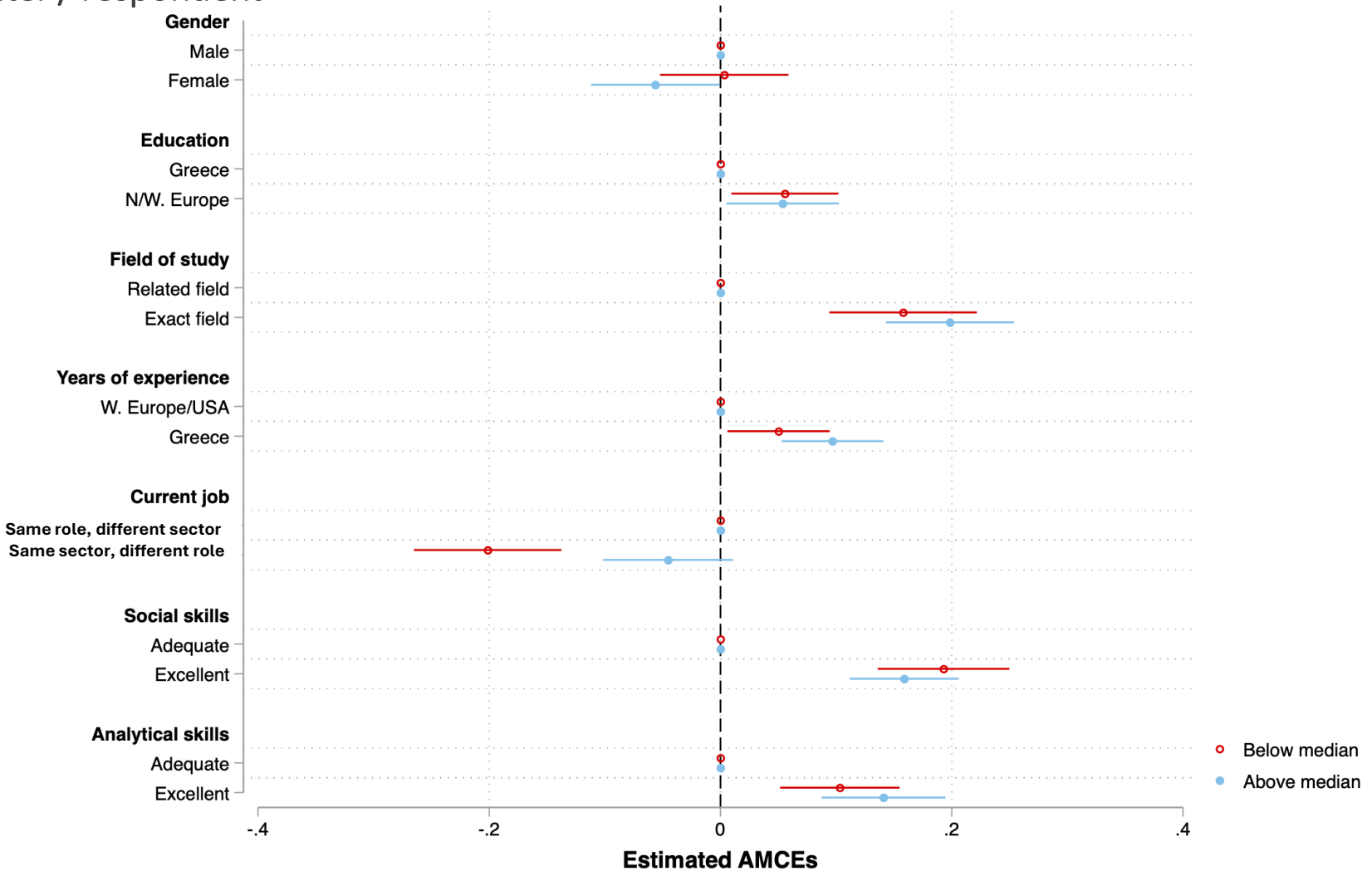
- **Gender:** Male respondents show more in-group preference (0.112 vs 0.012)



Heterogeneity in Employer Preferences

Are Preferences Consistent Across age of respondent?

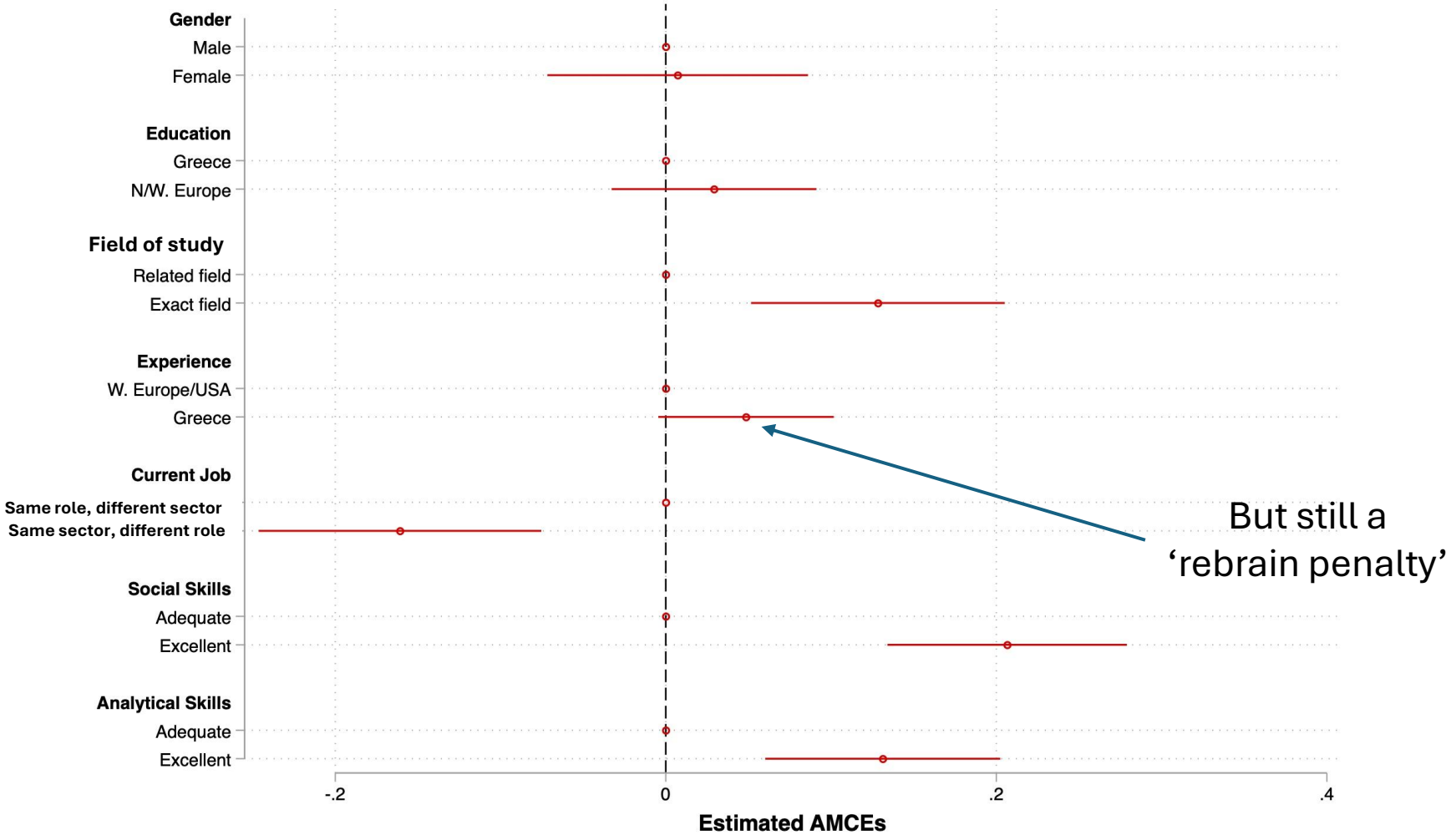
- Age of recruiter / respondent



Heterogeneity in Employer Preferences

Are employers that already tried to hire abroad different?

- Hired abroad before? -> More open to candidates with experience abroad than main results

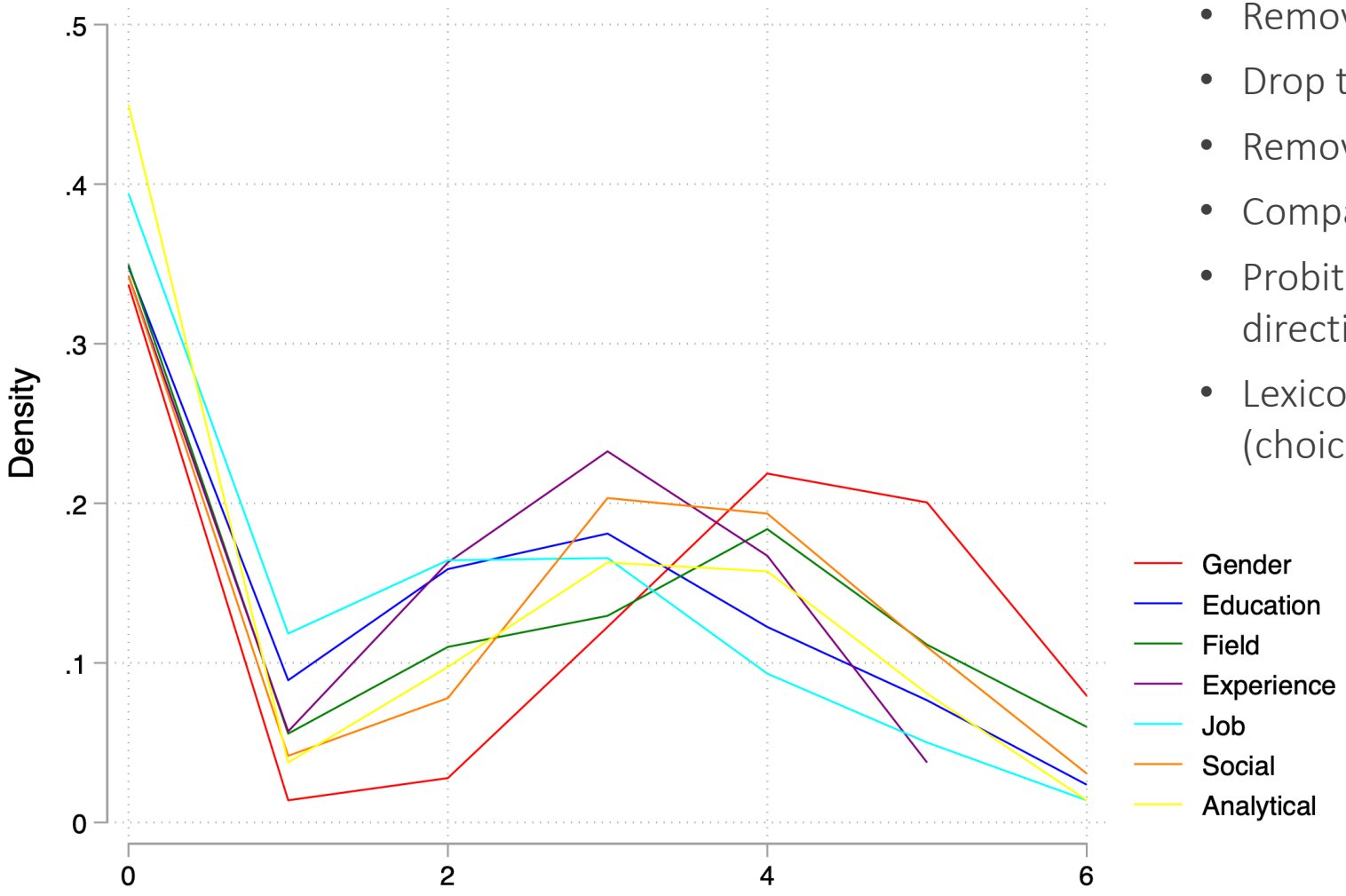


Attributes Interactions & Extensions

- Most interactions are small or insignificant
- Only **one strong, significant interaction**
  - Male × Education (N/W Europe) → -0.118, $p < 0.01$ → Male candidates with foreign education have a lower probability of being selected
- Others (e.g., Gender × Social Skills or Analytical) not significant

	Edu×Exp	Field×Exp	Gender×Exp	Gender×Edu	Job×Exp	Gender×SocSkills	Gender×Analytical
Greece # Greece	-0.009						
	(0.777)						
Related field # Greece		0.03					
		(0.315)					
Male # Greece			-0.023				
			(0.559)				
Male # N/W. Europe				-0.118 ***			
				(0.000)			
Same working field # Greece					0.03		
					(0.354)		
Male # Excellent						0.016	
						(0.635)	
Male # Excellent							0.058
							(0.113)
Observations	4600	4600	4600	4600	4600	4600	4600

Robustness of Results



- Remove one block at a time → Results stable
- Remove one task at a time → Results stable
- Drop top 1% of longest response times → No change
- Remove 2% who failed attention checks → No change
- Compare Marginal Means vs AMCEs → Consistent
- Probit vs Linear Probability Model → Results directionally aligned
- Lexicographic preference test → Not supported (choices not dominated by single attribute)

Next steps (empirics)

- Classification / Latent class analysis to identify typologies of businesses that prefer candidates with experience abroad

  → *Preliminary results suggest (a) Start-ups and (b) High-tech*

Stock-taking

Is there a 'rebrainer premium'?

Recall: literature suggests a wage premium from 'repatriation'

- Barrett & Goggin (2010) find for Ireland that returning emigrants earned about 7% more than observationally similar non-migrants, a premium they attribute to skills/ experience gained abroad (especially for those who had ventured outside the EU)
- Amanzadeh, Kermani and McQuade (2025, NBER): working abroad (in the USA) raises productivity of workers (originating from emerging economies) – in EG, 'escalator regions'

Our results: a sizeable 'rebrainer penalty'

- c.8%, larger than location of studies or gender (or field relevance for EBEA firms & older recruiters)
- But smaller (c.3%) at the intensive margin and half (or less) the size of the premium for social skills and relevance of field/studies

Yes heterogeneity, but difficult to pinpoint it (in progress)

- No big differences by size, but quite sizeable (near doubling) for older firms
- Even for firms with 'looking abroad', non-significant but penalty nevertheless

Some theory

Model priors *(from our in-depth interviews and focus groups with recruiters and large MNE firms)*

Recruitment

- "Not looking for the average", "many of these are hopeless", "people like these I can find already in Greece", "for good ones, we 'shop' (τσιμπάμε) directly from the Greek universities", "we are here to find the odd exceptional case" / "the 'creme de creme'"
  → *An information problem but of a different nature: not 'search', but information asymmetry (reveal applicant's 'true type')*

Valuation

- "We offer high(er) wages for exceptional talent", but "we cannot match the wages they earn abroad" and "you cannot offer different wages, like for like, to returnees"
- Combined with evidence from the survey (25% "more expensive but good value for money", 73% "we offer the same wage"; 31% and 67% for very large firms; except mainly for manufacturing and FIRE)
  → *Evidence that wage-setting does not respond to perceived need (e.g., skill gaps / supply shortages)*

Production

- "Hiring people from abroad may disturb the work-environment" versus "having a workforce with diverse experiences and aspirations adds to the workplace dynamic and the value of the product"
  → *The technology of combining labour inputs matters!*

Some theory

The wage offer *(adapted from Kwok and Leland, 1982, AER)*

Assumptions

- Perfect markets in Greece (G) and abroad (A) with full info on the 'local' workforce
  → all workers receive their MPL in the market of their residence
- Greek firms know the average productivity of ex-pats, but face uncertainty about the 'true type' / productivity of each repatriating worker
  → they pay a fixed wage ("πληρώνουμε το ίδιο") based on the average productivity of all ex-pats ($w_{RG} = \Sigma(v_i)/N_A$)
- Workers willing to 'repatriate', hence happy to pay a 'repatriation penalty'
  → accept $w_{RG(i)} = \kappa * v_i < v_i = w_{RA(i)}$ (for $\kappa<1$)

Implications

- Wage sorting: $\overline{\overline{w}}_{DH} > w_{RG} > \overline{\overline{w}}_{DL}$
- Low-quality 'rebraining': workers with $v_i > \frac{w_{RG}}{\kappa}$ will not return (adverse selection)
  → 'Job fairs' (f) and incentives (t) as mechanisms to resolve this:
  $\uparrow f \Rightarrow \uparrow cor(w_{RG(i)}, v_i)$ and $\uparrow t \Rightarrow \downarrow |v_i - \frac{w_{RG}}{\kappa}|$ (or simply $\uparrow t \Rightarrow \uparrow \kappa$)

Consistent with observation

- Reported / persistent skill shortages
- Reported (survey) and revealed (wages) lack of demand for human capital repatriation
- But continuous demand(s for policy to take actions providing support) for human capital repatriation

Some theory

A more elaborate model *(skill complementarities in production)*

Assumptions

- Repatriated (R) labour homogenous; it raises the productivity of domestic skilled (H) workers but not of the low-skilled (L)
- Production takes place with combinations of R, H and L
- Firms face different degrees of complementarity between R and H ($\sigma<1$)
- For firms servicing the local market and/or in protected sectors, R and H are interchangeable ($\sigma=1$)

Implications (*work in progress…*)

- Type $\sigma<1$ firms have higher productivity for R and H and thus they become the wage-setters for the two skill types
- Type $\sigma=1$ firms have no productivity advantage from combining R & H, so they end up 'specialising' in L (subject to the factor shares)
- At the extreme, $\sigma=1$ firms will only hire L (and pay the minimum wage)

Further steps

- Work with a CES production function – double-nested (with multiple equilibria) or a two-sector model?
- Introduce asymmetric info from adverse selection setting
- Consider incorporating different wage-setting dynamics…??

The demand for human capital repatriation

(Some theory and) evidence from a DCE with Greek employers

V. Monastiriotis (LSE), E. Kyrkopoulou (Yale), I. Laliotis (UoPatras), G. Melios (LSE)

Thank you!