Workforce Selection - Economic Perspectives

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What is production? What is efficiency?

- Combining inputs to produce outputs
- Getting the most output from given inputs
- All about *allocation*

What leads to or restricts efficiency?

- Inputs deployed where they have *comparative advantage*
- Inputs prevented from being deployed

Inherited or acquired productiviy

- *Human Capital*
- Scales up the effects of (mis)allocation of talent

Markets and access

- Job choice and investment in human capital are *constrained* choices
- Markets - wages, opportunities guide choices
  - Need the right signals
  - and ability to respond to those

Impediments

- Restrictions - either real or perceived
- Discrimination - distorted signals
- Being “closed out” - imperfect capital markets

Heaven and hell

- In Heaven: the cooks are French, the policemen are English, the mechanics are German, the lovers are Italian and the bankers are Swiss. In Hell: the cooks are English, the policemen are German, the mechanics are French, the lovers are Swiss and the bankers are Italian.
- In Heaven: the surgeons are dextrous, the GPs are empathetic and the anaesthetists are technically savvy. In Hell: .....
- Not obviously related to sex, ethnicity or social economic background
- So don't expect these characteristics to determine allocation
- If they do .... we might be nearer to allocative Hell than to Heaven

Determinants of allocation to speciality training in UK

- There is a desire for the profession to reflect both the appropriate skills and a balance of social, economic, gender and ethnicity characteristics (General Medical Council, 2010)
- However, It is well-documented that the distribution of these characteristics is highly unequal across medical specialities (Goldacre et al., 2010, Rodriguez-Santana and Chalkley, 2015)
- Economic view: If ability, skills and preferences were identically distributed between different demographic and socio-economic groups, the allocation of doctors across specialities would be:
  - Efficient
  - Lead to gender/ethnic/socio-economic balanced specialisations.

Example: Gender differences

The medical profession has experienced a steady increase in the number of female physicians in the OECD countries.

- 33-OECD countries mean share of female doctors incremented from 37.9% in year 2000 to 44.5% in 2013
- UK has experienced a more extreme phenomenon: the share of female doctors raised from 35.4% in 2000 to 46.5% in 2013

Nonetheless, the increase of **the number of women in the profession has not been translated in an equal representation of them in every specialization**.

- Male dominated: Surgical specializations
- Female dominated: Obstetrics and Gynaecology, Pediatrics, General Practice, etc.

Empirical Analysis

Objective: to understand the impact of how individual's characteristics correspond to their decision to apply and to their subsequent assessment by selectors from the different specialization.

We classify specializations in three groups:

- **Income domain** (High income vs. Bottom income)
- **Pathway domain** (Run-through vs. uncouple)
- **Practice domain** (Surgical vs. Medical)

Application Stage

		Specialization domains					
		Income		Pathway		Practice	
		Top Income	Bottom Income	Run-through	Uncoupled	Surgical	Medical
Demographic	Woman	NEGATIVE***	POSITIVE***	POSITIVE***	NEGATIVE***	NEGATIVE***	POSITIVE***
	BME	POSITIVE***	NEGATIVE***	POSITIVE**	NEGATIVE**	POSITIVE**	NEGATIVE**
Socio-economic	Parent Doctor	POSITIVE**	NEGATIVE	NEGATIVE	POSITIVE	POSITIVE*	NEGATIVE*
	School type (Private)	POSITIVE*	NEGATIVE*	NEGATIVE	POSITIVE	POSITIVE	NEGATIVE
Academic	Graduate on entry	POSITIVE*	NEGATIVE*	NEGATIVE	POSITIVE	POSITIVE*	NEGATIVE*
	Test Results	MIXED	POSITIVE*	NEGATIVE**	POSITIVE**	MIXED	MIXED

(*)(**)(***) Indicate the strength of the statisical significance, from 3 that indicates maximum to zero that means no statistical significance founded

Figure: Summary of the estimation results (Probit regression) for the three domains

Selection Stage

		Transformed Interview Score
		OLS Estimates
Demographic	Woman	POSITIVE**
	BME	NEGATIVE**
Socio-economic	Parent Doctor	NEGATIVE
	School type (Private)	POSITIVE
Academic	Graduate on entry	POSITIVE*
	Test Results	POSITIVE
	Shorlisting score	POSITIVE***

(*)(**)(***) Indicate the strength of the statisical significance, from 3 that indicates maximum to zero that means no statistical significance founded

Figure: Summary of the estimation results (OLS regression) for interview score