DEVELOPMENTS IN ECONOMICS EDUCATION
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Student Choices of Topic Areas: What Can We Learn?

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Aim(s)

- Quantitative & qualitative study of the results from a **series of individual viva voce exams** on **self-chosen topics** in Masters Economics programme

- Does **independent learning & feedback mechanism** lead to **learning effects** in subsequent performance in repeated assessment format?

- Also, which topics are popular with our mostly international students?

Story 1

- Quantitative analysis of **learning effects on viva performance**
- Each student does 3 vivas on separate topics in front of 2 module tutors
- Student receives a digital recording, their (summative) mark & written (formative) feedback
- **Do independent learning** methods & **feedback effects lead to higher subsequent** results in **repeated** assessments through greater student **engagement & motivation**? Does IL benefit the independent learner?

Using Vivas

- Individual vivas are usually **new to students in Economics** – more used to exams & written assignments

- Students may have done group presentations but the viva is **individual, vocal-only & half of the time is for Q&As**

- We incorporate them as part of University of Westminster's recommended course status from the **Government Economic Service**

- Marks are awarded based on **Knowledge & Understanding, Application and Communication**

The Data

- From 2009/10 to 2012/13 a total of 35 students have useable data

- During Semester 2 on the *Application & Appraisal in Economics* module students attend 3 vivas (February, April, June)

- Vivas can be on any topic that the student is interested in – the **topic is self-chosen** following a **drop-in session** a week before each viva (when tutors give advice)

- Student gets feedback within 2 weeks of each viva

- According to **the IL philosophy** and the **principle of timely feedback**, viva 1's feedback & mark are assumed to have a positive effect on vivas 2 and 3

Learning Effects

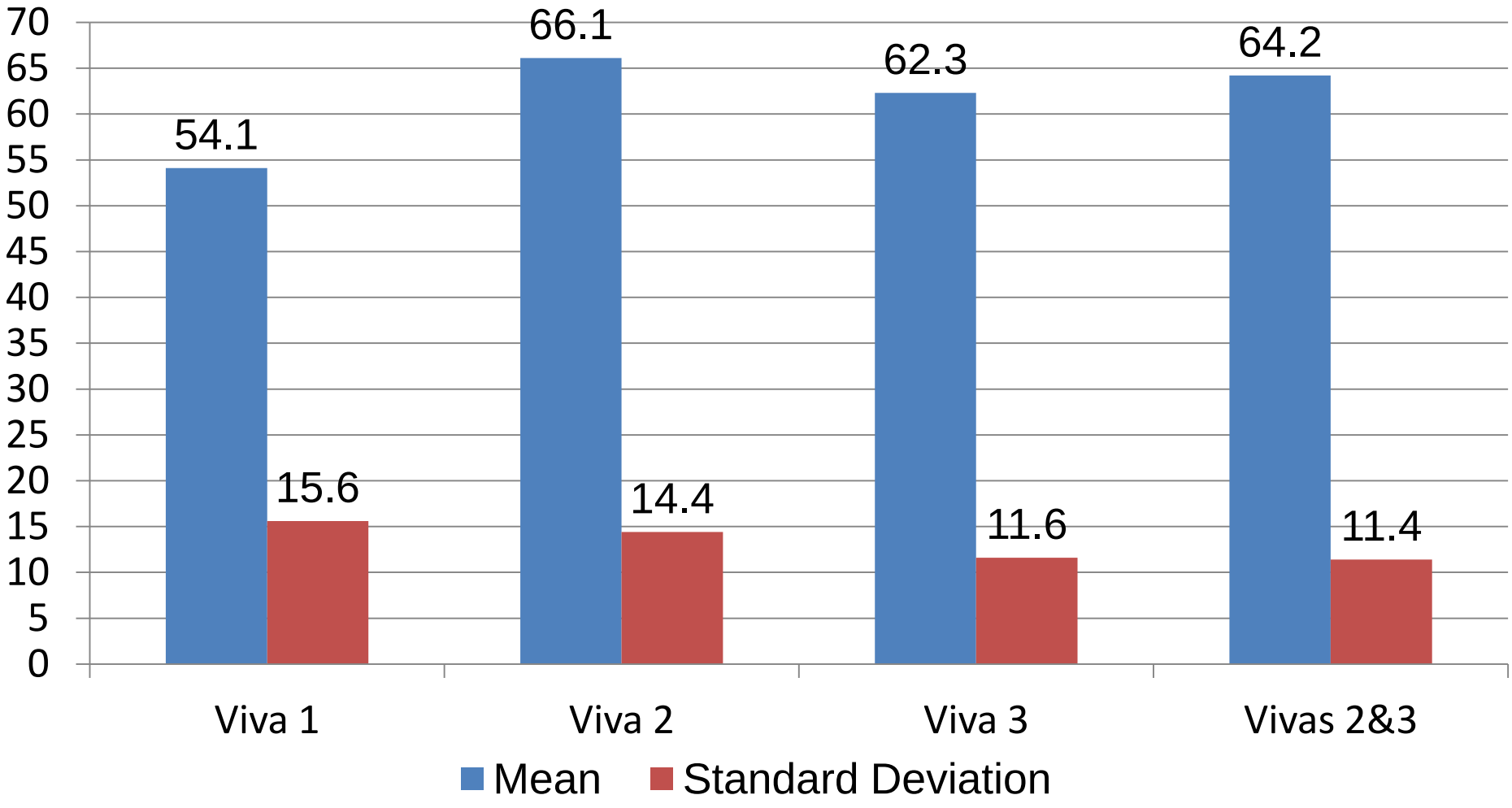
- A simple look at the viva averages & standard deviations across all students suggests a **positive learning-feedback loop** from viva 1 to viva 2 and from viva 1 to the average of vivas 2 and 3

- The average **viva 2 mark** is **12 percentage points higher** than the average viva 1 mark

- The **combined average** of viva 2 & viva 3 marks is **10 percentage points higher** than the viva 1 mark

- The **standard deviation** of marks **falls continuously** throughout the viva process

All Students (n=35)
Means & Standard Deviations (%)



Isolating the Learning Effect

- Ideally we need to isolate the viva learning effect from other observable influences

- We are looking for variables that may help to explain the viva results which help to categorise the learners from one another

- Data is collected to represent the learner before the start of this module so that viva 1 marks can be “explained” before using them as an explanatory variable

- Data includes variables to indicate **performance in core econometrics module, average performance in earlier modules, nationality, gender, economics background**

Influences on the Learning Effect

- DATA: Student's mark from Semester 1's Data Analysis (Econometrics) module
- FIRSTAVE: Student's average mark from the first 4 modules in Semester 1 of the course
- EU: Dummy = 1 if student is European, not UK, not Overseas
- OVERSEAS: Dummy = 1 if student is not European or UK citizen
- FEMALE: Dummy = 1 if student is female
- ECON: Dummy = 1 if student has a first degree in Economics, for other degrees and/or work experience ECON = 0
- COH1/2/3: Dummies to capture any cohort effects: base case is student from cohort 4 (2012/13)

Regression Coefficients

- The first two OLS regressions use the student's viva 1 mark as the dependent variable to be explained by existing factors – DATA and FIRSTAVE are the distinguishing explanatory variables

OLS 1 (R^2 = 0.20)	
Dependent Variable	VIVA 1
Intercept	41.215*
DATA	0.327*
EU	-5.506
OVERSEAS	-7.048
FEMALE	1.402
ECON	-4.142
COH1	-0.439
COH2	3.315
COH3	0.273

OLS 2 (R^2 = 0.23)	
Dependent Variable	VIVA 1
Intercept	22.632
FIRSTAVE	0.657*
EU	-7.278
OVERSEAS	-8.520
FEMALE	0.578
ECON	-1.200
COH1	-1.682
COH2	3.010
COH3	3.534

Base case is UK male from Cohort 4 without an Economics degree.

* Significant at the 5% level.

** Significant at the 10% level.

Regression Coefficients

- The next two OLS regressions use the student's viva 2 mark as the dependent variable to be explained by existing factors plus the introduction of the viva 1 mark – DATA and FIRSTAVE are the distinguishing explanatory variables

OLS 3 (R^2 = 0.43)	
Dependent Variable	VIVA 2
Intercept	43.717*
DATA	0.164
EU	9.120
OVERSEAS	-5.681
FEMALE	-0.838
ECON	-3.930
COH1	0.282
COH2	2.791
COH3	-12.477
VIVA1	0.323

OLS 4 (R^2 = 0.46)	
Dependent Variable	VIVA 2
Intercept	32.252*
FIRSTAVE	0.423**
EU	7.351
OVERSEAS	-7.499
FEMALE	-1.604
ECON	-2.356
COH1	-0.488
COH2	2.672
COH3	-10.218
VIVA1	0.281**

Base case is UK male from Cohort 4 without an Economics degree.

* Significant at the 5% level.

** Significant at the 10% level.

Regression Coefficients

- The next two OLS regressions use the student's viva 3 mark as the dependent variable to be explained by existing factors plus the viva 1 and viva 2 marks – DATA and FIRSTAVE are the distinguishing explanatory variables

OLS 5 (R^2 = 0.40)	
Dependent Variable	VIVA 3
Intercept	33.181*
DATA	-0.006
EU	4.381
OVERSEAS	0.282
FEMALE	-5.297
ECON	2.328
COH1	-3.183
COH2	-4.297
COH3	-2.759
VIVA1	0.219
VIVA2	0.307**

OLS 6 (R^2 = 0.40)	
Dependent Variable	VIVA 3
Intercept	31.233*
FIRSTAVE	0.117
EU	3.631
OVERSEAS	-1.273
FEMALE	-5.845
ECON	2.345
COH1	-3.341
COH2	-4.213
COH3	-2.416
VIVA1	0.196
VIVA2	0.270

Base case is UK male from Cohort 4 without an Economics degree.

* Significant at the 5% level.

** Significant at the 10% level.

Regression Coefficients

- The next two OLS regressions use the average of the student's viva 2 and viva 3 mark as the dependent variable to be explained by existing factors plus the viva 1 mark – DATA and FIRSTAVE are the distinguishing explanatory variables

OLS 7 (R^2 = 0.45)	
Dependent Variable	VIVA 2&3
Intercept	45.167*
DATA	0.104
EU	8.152
OVERSEAS	-3.572
FEMALE	-3.196
ECON	-1.405
COH1	-1.407
COH2	-0.324
COH3	-9.535
VIVA1	0.321*

OLS 8 (R^2 = 0.50)	
Dependent Variable	VIVA 2&3
Intercept	36.103*
FIRSTAVE	0.327**
EU	6.485
OVERSEAS	-5.400
FEMALE	-3.941
ECON	-0.324
COH1	-1.981
COH2	-0.409
COH3	-7.699
VIVA1	0.277*

Base case is UK male from Cohort 4 without an Economics degree.

* Significant at the 5% level.

** Significant at the 10% level.

Regression Coefficients

- The next two OLS regressions use the average of the student's viva 2 and viva 3 mark as the dependent variable to be explained by existing factors plus the viva 1 mark – DATA and FIRSTAVE are the distinguishing explanatory variables

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Base case is UK male from Cohort 4 without an Economics degree.

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** Significant at the 10% level.

Simplifying the Model

- The next two OLS regressions use the student's viva 2 mark as the dependent variable to be explained by only the viva 1 mark plus DATA or FIRSTAVE as the distinguishing explanatory variables

OLS 9 (R^2 = 0.22)	
Dependent Variable	VIVA 2
Intercept	41.454*
DATA	0.083
VIVA1	0.367*

OLS 10 (R^2 = 0.26)	
Dependent Variable	VIVA 2
Intercept	31.116*
FIRSTAVE	0.317
VIVA1	0.312*

* Significant at the 5% level.

Simplifying the Model

- The next three OLS regressions use the student's viva 2 mark or viva 3 mark as the dependent variable to be explained by only the viva 1 mark or viva 2 mark where appropriate

- These models suggest that a similar positive feedback loop is present between viva 1 & viva 2, viva 3 & viva 2, and, to a lesser extent, between viva 3 & viva 1

OLS 11 (R^2 = 0.20)	
Dependent Variable	VIVA 2
Intercept	43.764***
VIVA1	0.412***

OLS 12 (R^2 = 0.28)	
Dependent Variable	VIVA 3
Intercept	34.139***
VIVA2	0.426***

OLS 13 (R^2 = 0.17)	
Dependent Variable	VIVA 3
Intercept	45.501***
VIVA1	0.310***

*** Significant at the 1% level.

Story 2

- Qualitative analysis of international contexts of viva topics
- Are there **differences in the distribution of national contexts** that UK, EU and Overseas students opt for when choosing topics?
- Does the **internationalisation of their own curricula** appeal to the non-UK student so that marks are higher than on more predetermined modules?
- When students are given free reign to choose topics, **what sort of topics are they choosing?**

Qualitative Analysis of International Contexts

- The following frequency distribution of national contexts by student nationality suggests 61% of topics are UK-based with over half of those chosen by overseas students
- Less that 10% are EU-based (non-UK) topics and over 80% of these are selected by EU students
- One third of topics have an overseas context (non-EU, non-UK) with 86% of these chosen by overseas students. No overseas student has yet picked an EU (non-UK) context.

	Topic Context							
Student Nationality	**UK**	**UK (%)**	**EU**	**EU (%)**	**OVERSEAS**	**OVERSEAS (%)**	**TOTALS**	**% of Vivas**
UK	13	20.3	1	16.7	4	11.4	18	17.1
EU	18	28.1	5	83.3	1	2.9	24	22.9
OVERSEAS	33	51.6	0	0.0	30	85.7	63	60.0
TOTALS	64	61.0	6	9.4	35	33.3	105	100.0

Viva Averages by Student Nationality

- The following breakdown suggests EU students have the lowest viva 1 average marks but the highest viva 2 & 3 marks

- Overseas students receive lower than average marks in vivas 2 and 3

- Earlier regression results indicate that nationality is not important in the viva feedback mechanism

Student Nationality	Viva 1 (%)	Viva 2 (%)	Viva 3 (%)	All Vivas (%)	Vivas 2 + 3 (%)
UK	55.0	68.2	63.2	62.1	65.7
EU	52.4	71.8	66.0	63.4	68.9
OVERSEAS	54.5	63.3	60.6	59.4	61.9
ALL STUDENTS	54.1	66.1	62.3	60.8	64.2

Changes in Viva Averages by Student Nationality

- If we take the difference between viva results on average distributed by student nationality we can see that EU students achieve the biggest increases between viva 1 & 2 and viva 1 & 3

- All nationalities suffer a small negative change in their marks between viva 2 & 3 with the EU students experiencing nearly a 6 percentage points drop compared with less than 3 percentage points reduction by overseas students

Student Nationality	Viva 2 -Viva 1 (%)	Viva 3 - Viva 1 (%)	Viva 3 - Viva 2 (%)
UK	13.2	8.2	-5.0
EU	19.4	13.6	-5.8
OVERSEAS	8.8	6.1	-2.7
ALL STUDENTS	12.0	8.2	-3.8

Viva Averages by Topic Context

- The following breakdown suggests EU-themed vivas achieve the highest viva 1 average marks
- Viva 2 performance is highest for UK-themed vivas
- Viva 3 performance is highest for overseas-themed vivas
- Across all vivas the EU-topics gain the highest marks whilst overseas-themed topics achieve the highest marks in viva 3

Topic Context	Viva 1 (%)	Viva 2 (%)	Viva 3 (%)	All Vivas (%)	Vivas 2 + 3 (%)
UK	52.0	65.1	63.2	58.8	62.4
EU	67.0	60.0	58.7	64.5	64.0
OVERSEAS	56.9	63.3	66.3	63.8	67.4
ALL TOPICS	54.1	66.1	62.3	60.8	64.2

Changes in Viva Averages by Topic Context

- If we take the difference between viva results on average distributed by topic nationality we can see that UK topics achieve the biggest increases between viva 1 & 2 (marks for EU topics fall on average)

- Vivas on EU topics are awarded the largest positive change in marks between vivas 1 & 3

- All topics suffer a negative change between vivas 2 & 3

Topic Context	Viva 2 -Viva 1 (%)	Viva 3 - Viva 1 (%)	Viva 3 - Viva 2 (%)
UK	13.1	8.2	-5.0
EU	-7.0	13.6	-5.8
OVERSEAS	6.4	6.1	-2.7
ALL TOPICS	12.0	8.2	-3.8

What Topics Do Students Choose?

- Here is the percentage breakdown of vivas by economic context – note that infrastructure includes road pricing

- The list of miscellaneous topics includes movie piracy, illegal streetcar racing, Japan's ageing population, the BBC license fee and the legalization of prostitution in Russia