An Analysis of the Factors That Determine the Self- assessment Skills of Undergraduate Economics Students

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Importance of Self-Assessment

- **A key intended learning outcome of courses in HE is to develop the ability of the students to become effective independent/self-directed/self-regulated learners**

- **Must become able to accurately judge the quality of their own learning. i.e. have good self-assessment skills.**

- **Ultimate aim is to develop students who have evaluative skills that are similar to those of the tutor.**
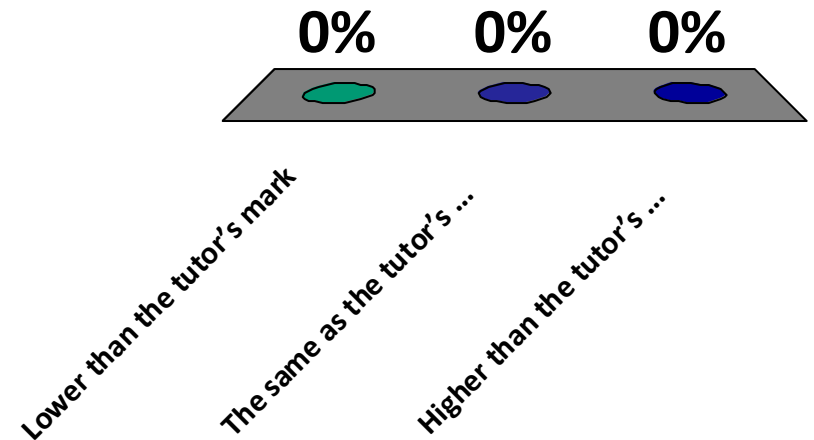
Different Types of Self-Assessment

- **Could try and measure the student's ability to self assess:**
1. **A specific piece of coursework e.g. an essay**
   - **Numerous studies across a range of different disciplines – Cassidy, 2007; Lew et al, 2010**
   - **However could not find any with economics students**
2. **Their understanding of the subject both before and after an in-class test/ examination.**
   - **Literature in economics – Grimes, 2002; Nowell and Alston, 2007; Chevalier et al, 2007**

Do you think that on average the student self-assessment mark for an essay for Principles of Economics will be

A. Lower than the tutor's mark

B. The same as the tutor's mark

C. Higher than the tutor's mark

0%   0%   0%

Lower than the tutor's mark

The same as the tutor's ...

Higher than the tutor's ...

Previous Research Findings

- **Large variations in the self-assessment performance of students across different studies.**

- **Is their a tendency for students to either over or underestimate performance?**

- **"Only by comparing the results of many studies can we see that there is no consistent tendency to over- or under-estimate performance"(Boud, 1995)**

- **May be caused by variations in research design**

Research Design Issues

- **How exactly are the students' estimated marks collected?**
  - **Concerns that estimate will influence the tutor**
- **Incentive to exert effort in a difficult task**
  - **3 percentage point bonus**
  - **Evidence of some confusion**
- **What study skills training did the students receive prior to carrying out the self-assessment exercise**
- **What are the students' estimated marks compared with?**

Economics Network

Study Skills Training

- **Exemplar exercise using 'cleaned copies' of previous essays**

- **'Creating an assessment criteria' activity**
  - **Comparison with the actual assessment criteria**

- **Generating feedback using the assessment criteria and comparison with tutor comments**

- **A group peer review exercise marking a draft copy of an economics essay**

Summary Statistics for Self-Assessment Scores and Tutor Marks for Microeconomics/Macroeconomics Modules

| Course	Variable	Obs	Mean	Std. Dev.	t	P-value
1st year	self assess.	102	**59.72**	7.77		
Micro	tutor mark	102	**50.14**	8.06	9.965	0.00
1st year	self assess.	83	**58.69**	6.07		
Macro	tutor mark	83	**55.93**	10.12	2.433	0.017
2nd	self assess.	118	**59.84**	8.19		
Micro	tutor mark	118	**50.70**	10.58	11.7	0.00
All	self assess.	303	**59.48**	7.51		
	tutor mark	303	**51.94**	9.95	13.13	0.00

Previous Research Findings

- **Mean estimates do not illustrate the large variations in student self-assessment accuracy within a given group of students.**

- **What factors account for the variation in the ability of students to assess their own performance?**

  - **Gender**

  - **Subject/discipline**

  - **Expertise in the subject**

  - **Experience of self-assessment**
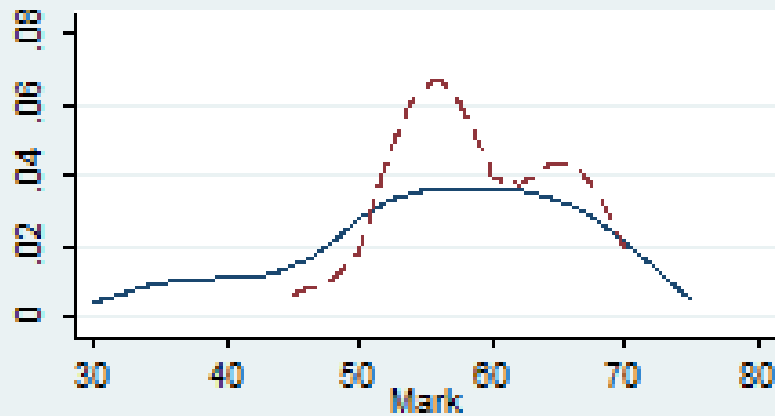
  - **Ability**
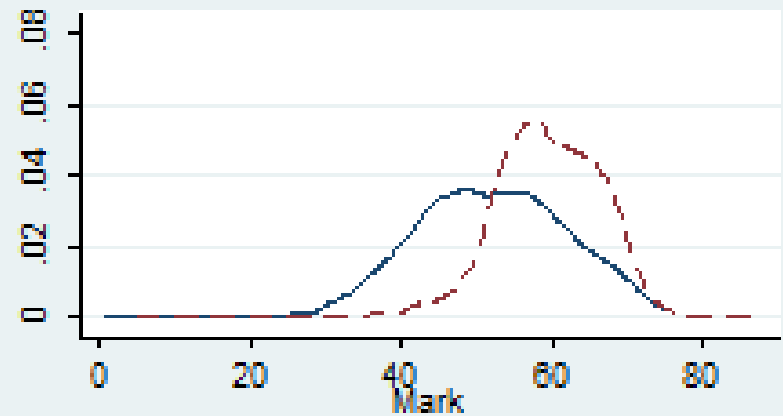
Self-assessment vs. tutor mark
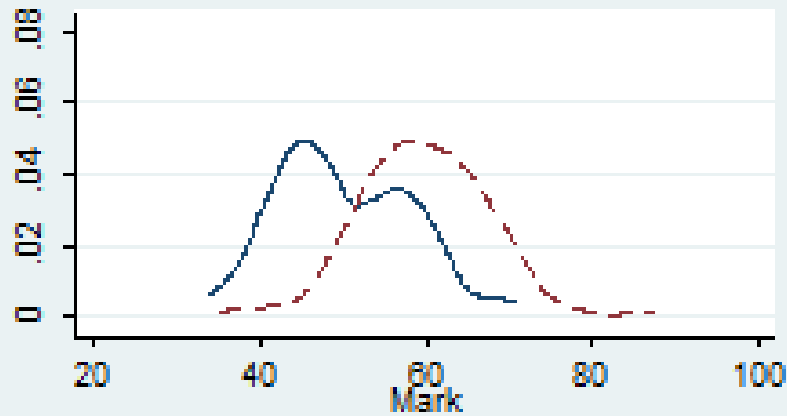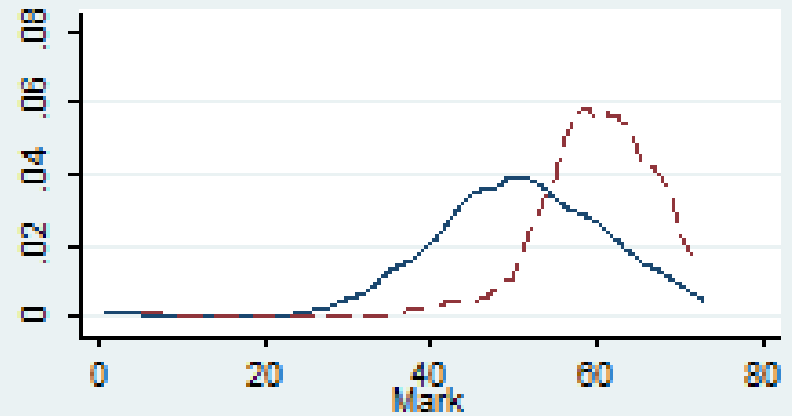
Self –Assessment Accuracy
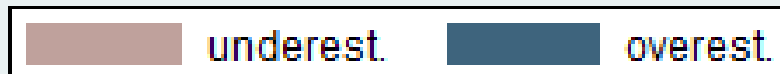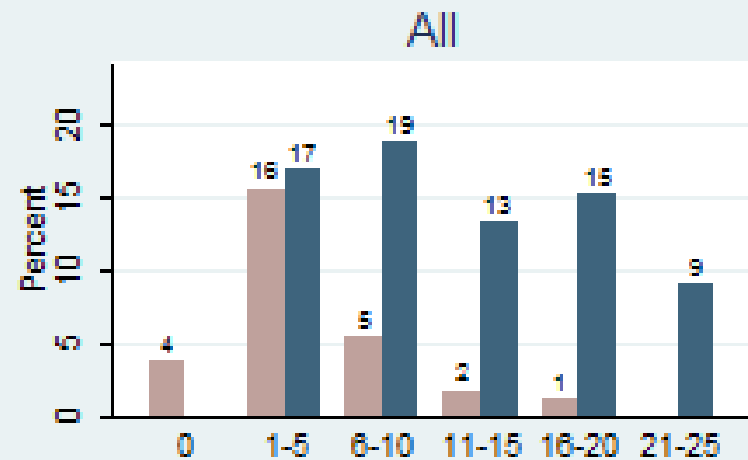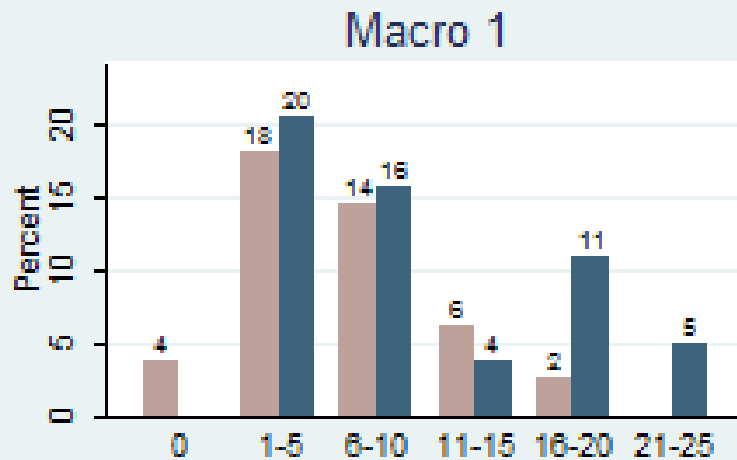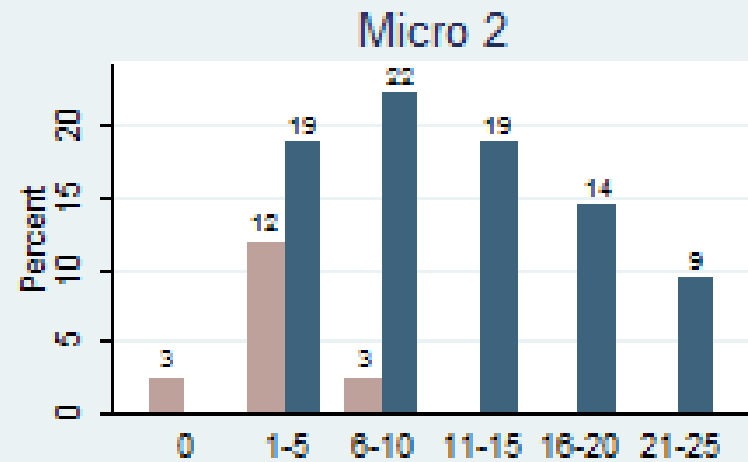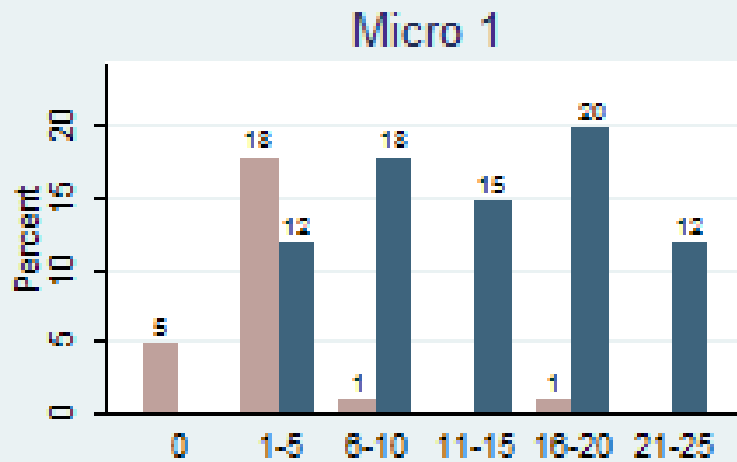
Ability Effect

- **Previous studies have found a strong "ability effect"**

- **"students judged as more academically competent were able to self assess with higher accuracy than their less competent peers" Lew at al, 2010**

- **How do you measure ability/ academic competence?**

Correlation Between Accuracy and Ability

(2nd year students)
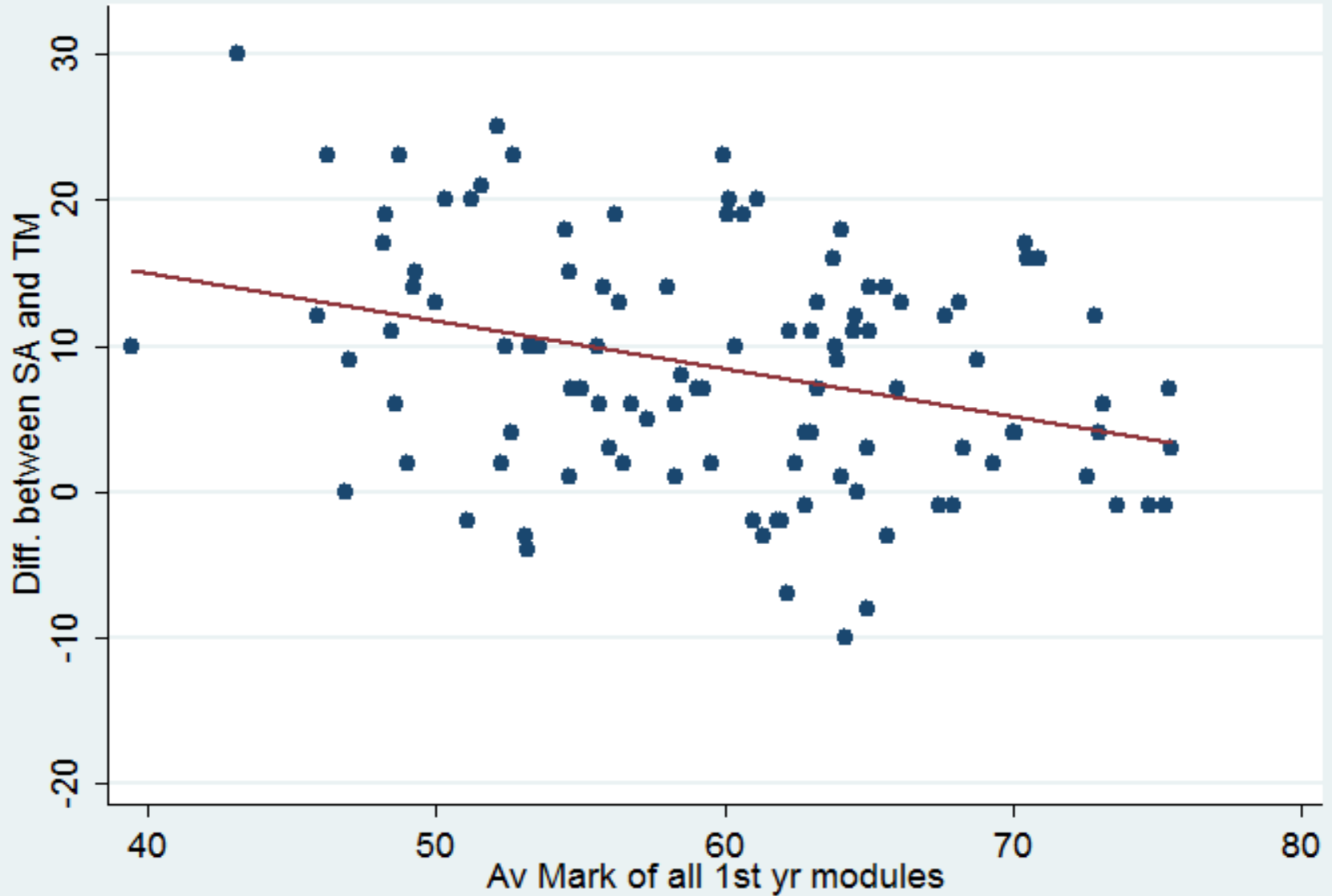
Estimated Model

- $$Dispersion_i = \beta_0 + \beta_1 Ability_i + \beta_2 Econ_i + \beta_3 Gender_i + \beta_4 Course_i + \varepsilon_i$$

- Dispersion: Absolute value of SA – TM

- Sample: 1st and 2nd year students UK

- Measuring ability:

  – Tutor mark for the essay

  – 1st year Micro mark, av. mark of all 1st year modules

  – Tariff points (total and A2), Maths A-level results

Self –Assessment Accuracy (2nd year)

Dependent Var	Absolute difference between self-assessment and tutor mark						
Essay Tutor Mark	-0.567***						
	(0.06)						
1st year Micro Mark		-0.0185					
		(0.02)					
1st year Mi, Ma, CI			-0.297**				
			(0.10)				
All 1st year modules				-0.244**			
				(0.09)			
Tariff points (total)					-0.0203		
					(0.02)		
Tariff points (A2)						-0.0433*	
						(0.02)	
Maths A, B							-0.0696
							(2.26)
Maths C, D, E							1.155
							(1.78)
Econ A level	1.835	2.837	3.816*	3.595+	2.793	2.072	3.183
	(1.31)	(1.93)	(1.82)	(1.83)	(1.92)	(1.89)	(1.94)
Gender	0.695	3.477+	3.237+	3.177+	2.864	2.319	3.192
	(1.32)	(1.88)	(1.79)	(1.81)	(1.91)	(1.86)	(1.96)
Intercept	37.14***	5.227+	20.50**	18.65**	11.05+	17.96**	3.57
	(4.00)	(2.78)	(6.20)	(6.07)	(5.99)	(6.12)	(2.53)
Course dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	81	81	81	81	81	81	81
R square	0.588	0.124	0.202	0.188	0.131	0.181	0.116

Standard errors in parentheses

+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$

Self –Assessment Accuracy (1ˢᵗ year Micro)

Dependent Var	Absolute difference between self-assessment and tutor mark			
Essay Tutor Mark	-0.557***			
	(0.09)			
Tariff points (total)		-0.0156		
		(0.02)		
Tariff points (A2)			0.00463	
			(0.02)	
Maths A, B				-5.299
				(3.43)
Maths C, D, E				-0.597
				(2.08)
Econ Alevel (Dummy)	-0.777	-1.636	-1.857	-3.386
	(1.73)	(2.13)	(2.17)	(2.36)
Gender	2.363	2.243	1.95	2.891
	(1.90)	(2.37)	(2.36)	(2.42)
Intercept	36.60***	13.40**	8.397	10.72***
	(4.92)	(4.94)	(5.08)	(2.76)
Course dummy	*Yes*	*Yes*	*Yes*	*Yes*
Observations	75	75	75	75
R square	0.377	0.053	0.042	0.075

Standard errors in parentheses

+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$

Self –Assessment Accuracy (1st and 2nd year Micro)

Dependent Var	Absolute difference between self-assessment and tutor mark			
Essay Tutor Mark	-0.555***			
	(0.05)			
Tariff points (total)		-0.0186+		
		(0.01)		
Tariff points (A2)			-0.0207+	
			(0.01)	
Maths A, B				-0.805
				(1.83)
Maths C, D, E				0.621
				(1.35)
2nd year dummy	0.313	-0.543	-0.336	-1.168
	(0.93)	(1.27)	(1.31)	(1.23)
Econ Alevel (Dummy)	0.635	0.53	0.518	0.42
	(1.05)	(1.38)	(1.38)	(1.41)
Gender	1.216	2.263	2.041	2.316
	(1.08)	(1.41)	(1.42)	(1.44)
Intercept	36.61***	13.09***	13.19***	7.823***
	(3.05)	(3.55)	(3.59)	(1.88)
Course dummy	Yes	*Yes*	*Yes*	*Yes*
Observations	156	156	156	156
R square	0.459	0.07	0.07	0.056

Standard errors in parentheses

+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$

Self –Assessment Accuracy (1st year Macro)

Dependent Var	Absolute difference between self-assessment and tutor mark			
Essay Tutor Mark	-0.302***			
	(0.0771)			
Tariff points (total)		-0.00774		
		(0.0151)		
Tariff points (A2)			-0.0193	
			(0.0157)	
Maths A, B				-5.261+
				(3.026)
Maths C, D, E				-1.483
				(1.922)
Econ Alevel (Dummy)	-1.618	-1.443	-1.123	-3.144
	(1.751)	(1.969)	(1.960)	(2.178)
Gender	1.438	2.835	2.684	2.955
	(2.146)	(2.386)	(2.357)	(2.431)
Intercept	25.45***	9.324+	11.87*	9.692**
	(5.268)	(4.926)	(4.669)	(3.345)
Course dummy	Yes	Yes	Yes	Yes
Observations	64	64	64	64
R square	0.26	0.065	0.085	0.11

Standard errors in parentheses

+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$