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Developing a Cutting Edge Curriculum Undergraduate Level Economics

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Abstract
This paper assesses the undergraduate economics curricular at three academic institutions, one in the US and two in the UK, using a case study methodology. The results of this paper indicates that if the level of integration between research and teaching is very high, if the curriculum is 'relevant' interdisciplinary; and if the student selection process is robust and seeks only to admit only the most intellectually able students, then this may not only have a positive effect on the ranking of the institution itself but also on the ranking of the economics department of the institution. Furthermore, it can be demonstrated that there is also a correlation between the rankings of institutions and the institutions economic departments with former students as well as former and current staff being awarded Nobel Prizes.
Keywords: Education, Economics, Innovation, Teaching

1. Introduction

This enquiry will investigate the designing and implementation of a cutting edge or research oriented undergraduate curriculum in Economics by using a case study approach to compare and contrast the undergraduate Economics curricular at MIT, the University of Oxford; and the School of Oriental and African Studies (SOAS). Traditional economic analysis is conducted on the basis that consumers are able to make rational choices. This assumption is made in order to simplify and model a complex world it order to mathematically model it. However, it is clear that consumers do not make decisions on a rational basis because emotions and strategy are always involved in decision making. In this case, the cutting edge of research in Economics is now focusing on the psychological causes of decision making and game theory. This is due to the strategic way in consumers make decisions on a day to day basis.

The results of this enquiry will help to answer the question of whether research activities in an Economics department will help determine the type of undergraduate Economics curricular which is taught at higher education institutions. The context of this research is to understand why the level of undergraduate Economics curricular varies by higher education institutions.

The aim of this enquiry will be to seek an understanding as to why Economics undergraduate curricular vary across higher educational institutions. Therefore, the question which this enquiry will seek to answer is 'Why do undergraduate curricular in economics vary between institutions and what is the basis for this variation?' The objectives of this enquiry into higher education are threefold. Firstly, a critical engagement with the ideas about education at a personal, peer and public level. Secondly, an exploration of the themes of diversity, equality and educational values, disciplinarity, the relationship between research, teaching, learning, theorizing and teaching and assessment. Of these themes this enquiry will focus on the disciplinarity theme associated with higher education. Finally, the results of this enquiry will provide an opportunity to assess existing practice and then allow for changes to be made to this practice. This will be beneficial to student learning.

2. Context of Enquiry

The writer ascribes to the view that the process of education is best described by the capability model. The primary objective of a university education should be to shape students personalities in such a way that they become problem solvers and critical thinkers. The increase in the undergraduate tuition fee, which was introduced by the Coalition government elected in the UK in May 2010, will have a number of implications. Firstly, undergraduates will expect a high quality of teaching from academic staff. Secondly, undergraduates will expect a certain degree of on-going support in finding suitable employment after graduation. Thirdly undergraduates will expect that the content of their degrees will be at a high level. Finally, undergraduates will expect access to significant recreational, IT and library facilities during their years of undergraduate study. The impact assessment on student choice may be a subjective one because different students will have different reasons for selecting a particular university.

Traditionally in the UK once undergraduates have completed their courses they may at a later stage in their career consider undertaking either an MA/MSc. The demand for places on postgraduate courses has been higher

in years when levels of unemployment have been high. Graduates enroll on postgraduate courses when unemployment is high so that they can improve their skills and be ready to find work when the economy expands again in the future. When aggregate demand is increasing employers will be more willing to hire additional workers. However, the increase in tuition fees may impact on this model because graduates will leave their undergraduate studies with debts of over £50,000. Therefore, due to the level of competition for postgraduate scholarships and bursaries as well as the debt levels of existing graduates, the implication is that fewer British students will make the transition from undergraduate to postgraduate study in the future.

3. Literature Review

Thomas (1990) evaluates the development of a curriculum for music for gifted children. In this case, Thomas (1990) suggests that in the design of such a curriculum it is necessary to look beyond the commonly held beliefs and values of educators in the music field. If the implication is that it is true that curriculum design should look beyond commonly held beliefs in music then the same must be true of other subjects such as Economics.

Due to globalization the student body is more diverse than it ever has been. Both the international student and the host society will need training to meet each other's needs, Otten (2003). But it has to be recognized that the student body is not culturally diverse but also socially, linguistically and intellectually. Each higher educational institution will have a mission statement and objectives. One implication of attempting to cater for diverse student needs is that this will be in conflict with either the institutions mission statement and/or objectives. This is evident from the way in which some institutions admit students. For example, MIT places great emphasis on assessing both the intellectual as well as the linguistic ability of all potential entrants through quantitative tests, essays and interviews. However, the SOAS economics department bases its admissions criteria solely on 'A' Level grades achieved and the contents and quality of the applicant's personal statement. SOAS entrants to undergraduate Economics degrees are not either quantitatively or qualitatively tested in order to determine either the level of numeracy or the quality of writing. By relying on un-validated test results some institutions are in danger of lowering academic standards. Differing entrant's criteria, standards and entry processes will also make it difficult to compare undergraduate results across institutions.

Graybill et al (2006) recognizes the fact that an interdisciplinary approach is needed in order to resolve real world problems associated with the ecology. The implication of this is that it is necessary to create and maintain flexibility in academia and this can be thought of as extending to curriculum design. Furthermore, Becher et al (2006) uses a horticultural analogy in order to suggest that just as in the case of increased productivity in a market garden with a diverse range of crops, the quality and the productivity of an academic program can also be enriched by introducing interdisciplinarity into curriculum design. At a personal level the interdisciplinary nature of curriculum design is beneficial to students learning if the bias in teaching is towards the results of the latest research. Moreover, the way in which students are taught should be in such a way that they can transfer their learning and analytical skills from one subject to another. This will facilitate the learning outcomes from interdisciplinary undergraduate programmes. The authors teaching practice is best illustrated as one which stimulates the higher level cognitive abilities of students so that they can think for themselves rather than by regurgitating disseminated knowledge.

The literature has also recognized the link between educational theory and educational practice. In this case Eraut (1994) suggests that students should learn and be taught in such a way that he/she gains knowledge which leads to the possibility that alternative courses of action can be considered. The implication of this is that an interdisciplinary curriculum will allow students to draw on different strands of theory; and not necessarily theory which pertains to his /her subject area in order to resolve problems through alternate means. Secondly, according to Eraut (1994) students higher level cognitive faculties needs to be actively engaged by the curriculum. This is in order to enable students to be able to hypothesize and theorize in practice. This would suggest that a critically reflective research component is essential in a curriculum. However, a teaching practice which actively engages and tests student's critical thinking may mean that a critically reflective research component is not necessary.

Walker (1971) emphasized that the classical model of curriculum design revolved around objectives and the learning experience. The classical model of curriculum design emphasized the process of setting goals and objectives which could be fulfilled by course completion. However, other aspects of this process emphasized that once the objectives which the course of study was going to deliver were identified then it would be necessary to state these objectives in a logical way. Once the objectives had been stated in a written format then it would become necessary to design learning objectives which would enable the objectives to be achievable. The implication of this is that it would be necessary to select and organize learning experiences in such a way that the learning objectives can also be fulfilled. The classical model of curriculum design has gone through continuous development since its inception, Walker (1971). This would suggest that the classical model of curriculum design

can serve as a suitable benchmark against which other curriculum design methodologies can be compared. However, the methodology associated with the classical model of curriculum design suggests that the design of the curriculum has no influence on the content of the course. Curriculum design according to the classical model has little purpose other than adding an extra task to the teacher's daily work, Walker (1971). This indicates that the practice of teaching is isolated from the practice of curriculum design. According to Walker (1971) a curriculum design methodology which is derived from actual teaching practice would serve to illustrate novel features of the curriculum design process, highlight malpractice and allow for an appreciation of the strengths and weaknesses of the classical model of curriculum design. On reflection at a personal level it is clear that teaching practice should influence curriculum design. Furthermore, it would seem that the classical model of curriculum design is probably not the best way in which a curriculum could be designed. Reflecting the increases in the undergraduate tuition fees undergraduate economics curricular should be designed in such a way that relevant interdisciplinary research is a constituent of taught programmes. This will to some extent ensure that students receive value for money. Substantial accumulated debt levels will mean that UK students will take longer, if ever, to progress to postgraduate studies in their fields. This sentiment is to some extent backed up by Walker (1971) who brings into curriculum design the notion of an interdisciplinary balance between research and teaching. Economics is an evolving field and as time goes on it is bound to become more interdisciplinary then it currently is. Indeed, Economics is fast become a subject which is dependent on the Biological Sciences, Mathematics, Sociology and Psychology. The growing interdisciplinary nature of Economics and the fact that research is being conducted on a number of fronts suggests that the process of curriculum design should not be considered as a static one, but a dynamic one which changes to meet the requirements of the changing nature of the subject. Despite the interdisciplinary approach which is needed for designing the curriculum in Economics, according to Jacobs (1989) the main problem associated with the interdisciplinary approach to curriculum design is the Potpourri Problem. The Potpourri Problem refers to the situation in which when an interdisciplinary approach is applied to designing the course for an Economics curriculum, the resultant course may resemble a sampling of subjects. The course may then not be able to penetrate beyond a certain level of knowledge or thinking abilities. This outcome is in sharp contrast to courses which only specialize in one subject and which has been designed from a non-interdisciplinary approach. Nevertheless, the Potpourri Problem may be overcome if the course design is reviewed annually and the review is undertaken by senior academics who are at the forefront of research. So the curriculum and its design would be flexible and its change would be based on rolling over the results of the latest research into teaching. However, research takes a prominent role in the life of academics and UK institutions. Teaching plays a secondary role of 'bread and butter' to sustain the ongoing research which academics are engaged in. In addition to the Pot Pourri problem another problem which may arise as a result of interdisciplinary curriculum design is that of polarity, Jacobs (1989). This would facilitate a situation in which there is a lack of clarity in the curriculum leading to a conflict amongst teachers, Jacobs (1989). But if an interdisciplinary curriculum is designed on the basis of flexible adoption of new research then the problem of polarity can be avoided because the curriculum is adaptable and changing over time.

4. Methodology

Yin (2003) suggests that the case study research methodology should be used in certain circumstances. Firstly, when the research question begins with a 'how' or a 'why'. Secondly, where there is a lack of behavioral control. And finally when contemporary events are being investigated. Furthermore, Yin (2003) identifies five characteristics of a successful case study. These include research questions, research propositions, the units to be analyzed, criteria linking propositions to the data as well as the guidelines for the interpretation of the findings. Once a case study has been designed four tests have been established in order to evaluate the quality of the case study, Yin (2003). These four tests includes construct validity, internal validity, external validity and reliability. Construct validity assesses whether the variables to be evaluated have been objectively selected. Internal validity assessed whether the variable P has an impact on the variable Z or if the variable Y will impact on Z also. The test of external validity assesses whether the results of the study can be generalized to other situations/studies. Finally, the test of reliability assesses whether the case study and its results can be reproduced by other researchers.

4.1 Case Study Methodology Requirements

The comparative case study will focus on comparing and contrasting the mission statements and the specific features of the undergraduate curriculums at the Massachusetts Institute of Technology, the University of Oxford and the School of Oriental and African Studies as well as the respective institutions undergraduate curriculum in Economics. Moreover, the emphasis in the case study will be the interdisciplinary nature of the teaching as well

as the balance between teaching and research at the respective institutions. The model which will be used to analyse and evaluate the economic curriculum at each of the three institutions is illustrated in Figure 1. The advantage associated with using the same model to analyse and evaluate the economics curriculum at each of the three institutions is that it will ensure that the results are consistent, comparable and robust. Figure 1 illustrates that successful curriculum design involves mapping the institutions prescribed attributes, as stated in the institutional mission statement, statement of purpose or aims, into individual subject curricular, embedding and implanting the curriculum, evaluating student and teacher feedback; and then amending and redesigning the curriculum based on that feedback, Bath et al (2004). The successful use of the curriculum style will impact on the institutional ranking. Moreover, institutions use its mission statements, statement of purpose or aims not only to 'signal' and 'symbolize' but also to communicate with internal and external stakeholders, Morphew et al (2006). Furthermore, institutional embedding of research into teaching is not only dependent on curriculum design but is also evidenced by how many former/active Nobel Prize Winners in Economics an institutions department has. The quality of the curriculum assessment methodology reflects upon the extent to which teaching stimulates the higher level cognitive faculties of undergraduate students, Walstad (2001).

INSERT FIGURE 1 HERE

It is easy to see from the discussion so far that the five requirements of a case study, as stipulated by Yin (2003) have been fulfilled. However, for reasons of clarity the five requirements are restated below.

a) **Research Questions:** The main research question is 'Why do undergraduate curricular vary between institutions and what is the basis for this variation?' On the other hand the subsidiary research question is 'How can undergraduate curricular in Economics be developed so that it reflects the changing needs of the economy?' It can be seen that both questions begin with a 'how' or a 'why'.

b) **Research Propositions:** The research propositions for the case study are as follows

1) Is it possible to integrate cutting edge research into the formulation of undergraduate economics curricular?
2) Is it possible for an economics undergraduate economics curricular to be 'relevant' interdisciplinary rather than just being 'interdisciplinary'? The implication of the term 'relevant' is that the curriculum is truly interdisciplinary [incorporating material from other subjects into the economics curriculum] rather than being intra-disciplinary. The latter implies that the curriculum has just incorporated materials which are from subjects which are just sub-fields of Economics.
3) The institutional/departmental 'Mission Statement' , 'Aims' or 'Statement of Purpose' if effectively translated from words into action correlates to a superior institutional departmental ranking.
4) Higher institutional / departmental undergraduate entry requirements correlate with a higher institutional / departmental ranking.
5) There is a relationship between the content of the curriculum, the presence of Nobel Prize winners and the institutional / departmental global/national ranking. This proposition emphasizes the link between the integration of and the balance between research and teaching. According to the literature while undergraduate students understand the link between research and teaching, the understanding of the link between these two aspects of higher education only occurs over time, Zamorski (2002).

c) **The 'Units' which will be analyzed:** The units or factors which will be analyzed in this case study are as follows:

1) Institutional/departmental 'Mission Statement', 'Aims' or 'Statement of Purpose'.
2) Institutional/departmental undergraduate degree entrance requirements.
3) Institutional /departmental undergraduate economics curricular characteristics.
4) Institutional /departmental undergraduate economics curriculum.
5) Number of Nobel Prize Winners in Economics as a result of studying or teaching Economics at the institution.
6) Institutional/economics departmental ranking.

The above are not 'units' in the quantitative sense but rather qualitative ones which can be analyzed on the basis of effectiveness of the institution and/or the department in formulating educational policy as well as the effectiveness of the department/institution in translating that policy into actual results as measured by the institutional / departmental ranking.

d) **Criteria Linking Propositions to Units:** The criteria linking the propositions to the units are as follows:
   1) The level of integration between research and teaching in the undergraduate curriculum.
   2) The degree to which the undergraduate degree curriculum is 'relevant disciplinary' rather than just being 'inter-disciplinary'.
   3) The intellectual quality of the students gaining admission to the undergraduate curriculum. This can be accessed on the basis of the rigorousness of the applicant testing and selection process.
   4) The institutional /departmental ranking as assessed on the basis of rankings carried out by external organizations.

It is easy to see that 1) and 2) can be qualitatively assessed while 3) and 4) can be quantitatively assessed.

e) **The guidelines for interpretation of the findings:** The guidelines which will need to be used when interpretating the findings of this enquiry are as follows
   1) The consistency and robustness of the methodology used by the organization conducting the institutional / departmental ranking.
   2) The effectiveness with which the institution/department is able to translate its 'mission statement', aims' or its 'statement of purpose' into a superior institutional /departmental ranking. In this case it will be important to bear in mind that problems may arise due to internal validity issues.

5. Institutional / Departmental Case Study

5.1 The Massachusetts Institute of Science and Technology (MIT)

5.1.1 MIT Mission Statement

'The mission statement of MIT is to advance knowledge and educate students in science, technology and other areas of scholarship which will best serve the nation and the world in the 21st century – whether the focus is cancer, energy, economics or literature,' MIT (2011a). It is evident that MIT's mission statement is translated into action across all departments and specialism's including economics. This conclusion follows an analysis of the MIT Economics undergraduate curriculum as discussed in the next section.

5.1.2 MIT Economics Undergraduate Entry Requirements

The entry requirements for the MIT undergraduate programme in Economics falls into three categories, MIT (2011c):

a) At least four years of pre-undergraduate schooling in English, Mathematics and the Sciences as well as two or more years of a foreign language, history and social studies.
b) Standardized tests such as the SAT. In the reasoning tests in Mathematics students need to score between 730 and 800. In the reading test for critical reading students need to score between 660 and 770.
c) Students also need to write two essays, one which is set by the department into which entry is sought and the other by the department's institution itself.

5.1.3 MIT Undergraduate Economics Curriculum Characteristics

The characteristics which underlie the MIT undergraduate economics curriculum include the following, MIT (2011b):

a) The Undergraduate Research Opportunities Programme (UROP) facilitates the building of close links between leading researchers and undergraduate students. Participation on the UROP ensures that undergraduates are exposed to cutting edge research into economics at a relatively early stage in their undergraduate and professional careers. Typically as a result of participation on the UROP students will write software programs, analyse and gather economic data and collate research materials, MIT (2011b).
b) Introductory courses in Macroeconomics and Microeconomics are taught by senior Professors who are at the cutting edge of research in Economics.
c) Undergraduates of exceptional ability are selectively selected into the UROP.
d) New undergraduate courses are constantly developed. The content of these courses is reflective of the latest research achievements of the members of the Economics department. For example, the Economics department at MIT offers courses in Economics and Psychology, Environmental Economics, Regulatory Economics, the Labour Market and Information Technology as well as in Empirical and Financial Economics, MIT (2011b). These subjects reflect the cutting edge of research in Economics.

These characteristics illustrates the fact that the undergraduate Economics curriculum at MIT exhibits what is known as 'relevant interdisciplinary' subjects. The economics curriculum at MIT also exhibits a balanced approach to research and teaching within the faculty.

5.1.4 MIT Undergraduate Economics Curriculum

The successful completion of the MIT undergraduate Economics curriculum leads to the award of the degree of Bachelor of Science in Economics degree. Although the curriculum does not state which courses should be completed in which year, the curriculum does explicitly state that eight subjects are compulsory; and that some of these subjects are pre-requisites for a further five advanced electives, which must be completed, in order for the degree to be awarded. The compulsory subjects are as follows, MIT (2011b):

1) 14.01 – Principles of Microeconomics
2) 14.02 – Principles of Macroeconomics
3) 14.04 – Intermediate Microeconomic Theory
4) 14.05 – Intermediate Applied Macroeconomics

Courses 14.01 and 14.04 provide students with a strong background knowledge of Microeconomics while 14.02 and 14.05 provides students with a strong background knowledge of Macroeconomics, MIT (2011b).

5) 14.30 – Introduction to Statistical Methods in Economics
6) 14.32 – Econometrics.

14.30 and 14.32 gives students strong knowledge of the testing of economic models using appropriate data, MIT (2011b).

7) 14.33 – Econ.Research and Communication. The successful completion of this unit requires students to complete a term paper which evaluates an economic question using appropriate data.
8) Thesis – 14.33 is a pre-requisite.
9) Sixty units of economics electives or five full subjects.

Of the twenty-seven electives on offer it is recommended that students select the following five subjects, MIT (2011b):

10) 14.13 - Psychology and Economics.
11) 14.16 - Strategy and Information.
12) 14.26 - Economics of Incentives.
13) 14.45 - Financial Economics.

The pre-requisites for these advanced electives also includes Intermediate Microeconomic Theory and Intermediate Applied Macroeconomics, MIT (2011b). It is clear from the structure of the curriculum that the more advanced electives and courses, 14.13, 14.16, 14.26 and 14.45 are preceded by the less advanced prerequisites. The assessment of the courses is by examination unless there is a stipulation in a particular course that a written course component is required in place or together with a final unwritten examination.

5.1.5 MIT Economics Nobel Prize Winners

The Economics department at MIT has produced several Nobel Prize winners including Robert Aumann, Joseph Stiglitz, George Akerlof, Robert Mundell, Robert Merton, Lawrence Klein and Paul Krugman. However, the members of staff who have been awarded the Nobel Prize while actually working in the Economics Department at MIT includes Franco Modigliani, Robert Solow, Paul Samuelson and Peter Diamond. The latter is the only Nobel Prize winner who still teaches in the Economics Faculty at MIT.

5.2 The University of Oxford

5.2.1 University of Oxford's Economics Departments Undergraduate Aims

The University of Oxford does not offer a single honors degree in Economics. But it does offer three BA joint honors programs as well as two joint M.Eng programs in the following combinations, University of Oxford (2011a):

a) Philosophy, Politics and Economics [PPE],
b) Economics and Management,
c) History and Economics,
d) Engineering, Economics and Management and,
e) Materials, Economics and Management.

The PPE is by far the most recognizable BA offered by the University of Oxford; and so it is this BA which will be the subject of analysis in this case study.

5.2.2 The University of Oxfords PPE Undergraduate Entry Requirements

The admissions criteria for entry onto the BA in PPE stipulates that candidates do not require prior knowledge of the subjects. However, prospective applicants are required to sit pre-interview critical reasoning tests, the results

of which will determine the candidate's eligibility for an invitation to interview to be issued, University of Oxford (2011c). If a candidate is successful at interview then conditional offers, typically three A* grades, are made.

5.2.3 The University of Oxfords Undergraduate Economics Curriculum Characteristics

The specific aim of the joint BA honors degree at Oxford, including the PPE, is to 'provide students with a high quality, multi-disciplinary programme that is structured but flexible in the economics components which are offered, combining core elements with specialisms, QAA (2000). The Department of Economics at Oxford has five aims of which the following two are the most pertinent to this enquiry, QAA (2000):

a) 'Develop undergraduate students knowledge of Economics in a multidisciplinary framework that will equip them for a transition to a higher degree, professional training or to proceed into a number of varied careers'.
b) 'Provide students with a learning environment which is characterized by high quality academic and pastoral support.'

These two aims seem to be pertinent to this study because they contribute to both interdisciplinarity as well as the balance between teaching and research. Interdisciplinarity underpins the objectives of this study to a great extent.

5.2.4 The University of Oxfords Undergraduate Economics Curriculum

The B.A. (Hons) PPE degree at Oxford is jointly managed and run by the university's Economics, Politics and Philosophy departments, University of Oxford (2011b). In the first year of the PPE all three subjects are allocated equal weightings as follows, University of Oxford (2011b):

a) Philosophy – General Philosophy, Moral Philosophy and Elementary Logic.
b) Politics – Theorizing the democratic state, Analysis of democracy in the UK, US, France and Germany.
c) Economics – Microeconomics and the study of the behavior of individual markets.
   Macroeconomics and the wider economy.
   Mathematical techniques used in Economics.

In the second year and the final third year students can choose to continue the study of all three subjects or to select two out of the three. However, whichever combinations of subjects are taken by students they will need to take compulsory courses as well as optional courses in his/her chosen field as follows, University of Oxford (2011b):

a) Philosophy – Ethics and a selection of one between the History of Philosophy, Plato's Republic or Aristotle's Nichomachean Ethics.
b) Politics – Any two from Comparative Government, British Politics and Government since 1900, Theory of Politics, International Relations and Political Sociology.
c) Economics – Compulsory courses in Microeconomics, Macroeconomics as well as Quantitative Economics.

The curriculum also allows students to take three optional choices. In Economics thirteen optional courses are on offer for students to choose three from. Despite the fact that the optional courses are advanced in content, only one of the optional courses, Game Theory, is prominent in cutting edge research as well as interdisciplinarity. The method of assessment which is used to examine students' knowledge of the curriculum consists of eight written examinations. These exams are evenly spaced over a period of three years. One of the written examinations can be replaced an individual research project in which the student undertakes and submits a piece of original research.

5.2.5 University of Oxfords Economics Nobel Prize Winners

Six former members of the Economics Department at the University of Oxford are Nobel Prize winners in Economics. They include John Hicks, Lawrence Klein, James Meade, James Mirrlees, Amartya Sen and Joseph Stiglitz.

5.3 The School of Oriental and African Studies (SOAS)

5.3.1 SOAS Statement of Purpose

In contrast to MIT and the University of Oxford, SOAS does not have a 'mission statement' but instead it has a 'Statement of Purpose'. This can be broken down into four aims, SOAS (2011a):

a) 'To advance through teaching and research, the knowledge and understanding of Africa, Asia and the Middle East'.

b) 'To contribute to the development of the School's academic disciplines'.
c) 'To provide high quality education so that our students can achieve excellence in their chosen subject or subjects and to develop their intellectual and other core skills'.
d) 'To promote and lead global public education in our areas of specialist expertise concerning Africa, Asia and the Middle East both in the UK and around the world,'

Furthermore, in its long term vision SOAS expresses its multidisciplinary approach, but not specifically in terms of teaching or an undergraduate curriculum in Economics, SOAS (2011a):

'The School is committed to developing programmes that cross boundaries between disciplines and has identified the development of Islamic Studies, Chinese Studies, Thematic Masters programmes and Africa as its academic priorities'.

5.3.2 SOAS Economics Department Entry Requirements

The candidate requirement for entry onto the SOAS BSc Economics programme stipulates that candidates need to achieve three 'A' grades at 'A' Level. However, no specific subject combination is required, SOAS (2011c). But if a candidate is unable to offer 'A' Level Mathematics then he/she will have to have at least a grade 'A' at GCSE Level.

5.3.3 SOAS's Undergraduate Economics Curriculum Characteristics

The SOAS undergraduate Economics curriculum offers two streams of study which lead to the award of a BSc degree. These two degrees are Economics and Development Economics. The latter degree is suitable for students who lack a sufficient in-depth knowledge of Mathematics. Only the BSc Economics degree scheme will be evaluated in this case study because it is more consistent with its requirements. The course of study has several desired outcomes, SOAS (2011b). These desired outcomes include:

a) Knowledge and Understanding – Students gain a solid grounding in quantitative techniques.
b) Intellectual Thinking Skills – Students appreciate and understand the difference between mathematical or mainstream (orthodox) and non-mainstream (heterodox) economic theories which do not have a mathematical underpinning. The teaching lays a specific emphasis on economic development as well as on economic growth.
c) Practical Skills – Students are expected to acquire the ability to locate appropriate and relevant economic literature as well as to present consistent and robust economic arguments in written and visual form.
d) Transferable skills – Students are expected to have developed analytical, evaluative and research skills during their undergraduate studies.

5.3.4 SOAS's Undergraduate Economics Curriculum

The BSc Economics degree at SOAS takes three years of undergraduate study to complete on a full-time basis. The Economics curriculum stipulates that the following subjects should be undertaken in each year of study, as follows, SOAS (2011b):

a) **Year 1** – Introduction to Economic Analysis (core and compulsory).
Introduction to Quantitative Methods for Economists (IQME) – for students without 'A' Level Economics or Quantitative Methods for Economists (QME) – for students with 'A' Level Mathematics.
Comparative Growth in Asia and Africa (core and compulsory)
Option from any department or institution within the University of London.
b) **Year 2 –** Intermediate Economic Analysis (core and compulsory).
Econometrics (core and compulsory but QME is a pre-requisite).
Quantitative Methods in Economics (core and compulsory but IQME is a prerequisite).
Economics of Developing Countries 1 (core and compulsory).
One of the following or another option offered by any other department of the University of London – Banking and Finance in Economic Development
Foreign Trade and Development.
c) **Year 3 –** Advanced Economic Analysis (core and compulsory)
Any three of the following: Applied Econometric Techniques, Economic Development of Africa, Economic Development of South Asia, Economic Development of South-East Asia, Economic Development of Japan since 1868, Economic Development of Modern China,

Economic Development of Modern Middle East, Economics of Developing Countries II, Independent Study Project in Economics.

The method of assessment which is used for each subject, except the Independent Study Project in Economics, is 80% by examination and 20% by coursework assessment in the form of two assessed essays, one in Term 1 and the other in Term 2.

5.3.5 SOAS's Economics Departmental Nobel Prize Winners

None.

5.4 Institutional / Economics Departmental Rankings

INSERT TABLE 1 HERE

Table 1 above shows the institutional and economics departmental rankings of MIT, the University of Oxford and SOAS. The rankings by the Times and QS are institutional and rank institutions on a global or international basis. On the other hand the ranking by IDEAS is both global and departmental. However, the ranking by the Guardian is national and UK based. The methodology by which it is constructed is based on the results of the National Student Survey in the UK. The rankings suggests that the institutional rankings given to MIT and to the University of Oxford by QS correlates to the institutional ranking given by IDEAS. These rankings by QS and IDEAS for MIT and the University of Oxford suggests that both the institutions and their respective Economics departments are within the global top ten. However, QS gives SOAS an institutional global ranking of 258. This contrasts with the economics departmental ranking for SOAS given by the Guardian. Clearly, the SOAS economics departmental ranking could be an outlier and the possible reasons for this are discussed in the next section.

6. Results and Analysis

TABLE 2 INSERTED HERE

Table 2 above summarises the economics undergraduate curricular at MIT, the University of Oxford and SOAS. From Table 2 it can be seen that in Year 3 at MIT all economics undergraduates study advanced topics which are interdisciplinary. At both Oxford and SOAS the Year 3 courses are undertaken as a result of direct progression from intermediate courses. But at MIT in Year 3 undergraduates are studying courses such as Psychology for which the pre-requisites are introductory and intermediate courses in Microeconomics, Macroeconomics and Econometrics.

INSERT TABLE 3 HERE

Table 3 above shows the results of the case study based on the criteria linking the propositions to the units or factors under study as detailed in the case study methodology requirements. It can be seen from Table 3 that if the level of integration between research and teaching is very high, if the curriculum is 'relevant interdisciplinary' and if the student selection process is highly selective and robust then this not only has an impact on the ranking of the institution but also on the ranking of the institutions economics department; and the creation of Nobel Prize winners in Economics. It is important to draw a distinction between an interdisciplinary curriculum, a 'relevant' interdisciplinary curriculum; and an intra-disciplinary curriculum. An interdisciplinary Economics curriculum necessarily includes subjects which may not have an impact on the development of Economics. Therefore, it is important to recognize that it is only a 'relevant' interdisciplinary curriculum which will impact on the development of Economics. This is because a relevant interdisciplinary curriculum draws on subjects such as Psychology which helping Economists with new insights on understanding how decisions are being made. Another subject which can be considered to be 'relevant interdisciplinary' would be Game Theory, for example. These two subjects, Game Theory and Psychology, are a feature of the 3rd Year undergraduate curriculum at MIT. On the other hand Oxford's PPE curriculum is purely interdisciplinary because it draws on subjects which are not at the forefront of cutting edge Economics research. The Economics curriculum at SOAS is intra-disciplinary because it draws on subjects which are sub-fields of Economics.

The only outlier seems to be the national ranking of the SOAS Economics department which is ranked 13th in the UK. This result may be explained by the fact that the methodology by which the ranking is determined is from the results of student surveys. This methodology of ranking departments and institutions as a number of shortfalls. Firstly, only a small proportion of students may complete the questionnaires/surveys. The students

completing the surveys/questionnaires may have done better, in their studies, than students who did not complete the surveys and so may have a biased/subjective view of the institution/department than may be warranted. Secondly, students who complete the surveys may not have all the necessary information/experiences in order to answer the survey questions objectively. The effect of these factors is that in general the results of surveys may be biased.

7. Conclusion

The original focus of the enquiry was to be on investigating differences between the institutions on the delivery of course content. However, the focus of the enquiry changed when the government in the UK announced that undergraduate tuition fees would increase from £3000 to £9000 a year. The results of this enquiry indicates that MIT's undergraduate Economics curriculum is 'relevant interdisciplinary'. This is due to the fact that MIT's undergraduate Economics curriculum includes subjects which are often considered to be outside the Economics domain. It also seems that the institutional mission statement, aims or statement of purpose maybe the reason as to why Economics curricular vary between institutions. MIT has a clearly worded mission statement. Moreover, the way in which MIT's academics are able to translate the mission statement may be much easier and less bureaucratic than is possible in UK institutions for example. So it may be true to say that with some institutions the shift from mission statement, statement of purpose and/or aims to curriculum development may cause a 'loss of translation'. In answering the subsidiary question it seems to be the case that for an economics curriculum to be value for money, both the quality of the course content as well as the way in which the course is delivered as to be high. As the cost of higher education has sky rocketed; the intellectual quality and content of undergraduate Economics programmes should also increase to include MSc Economics level content. UK undergraduates completing degrees under the new fee regime will be in debt at a younger age and perhaps for longer. They will also take longer to move onto postgraduate courses. Curriculum designers will also have to become more and more creative in order to design courses which are exciting and fun to study. The MIT undergraduate Economics curriculum is an idea template which could be used by the Economics departments of other higher educational institutions to design their undergraduate Economics curriculums. The enquiry has also focused on the nature of disciplinarity in Economics curricular. Here it was possible to categorize Economics curriculum as being either 'interdisciplinary', 'relevant interdisciplinary' or 'intra-disciplinary' in content.

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