

The Idea of Economics in a University

Gabriel X. Martinez
Ave Maria University

Abstract: *Relying on John Henry Newman’s Idea of a University, this paper explores the relation between economics and other disciplines. Newman had high regard for disciplinary specialization, which he thought would teach students and scholars how to think and would keep them intellectually honest. At the same time, he insisted that the learning and exploring of a science had to take place within a university, that is, with proper regard to the science’s place among other disciplines. This paper contributes to the debate on the proper way to do economics by applying to it Newman’s ideas, arguing that it is at its best when faithful to its own character, as long as it seeks out the contributions and the corrections of other disciplines. Indeed, because economics focuses on order, principle, and method, and because it provides a “connected view or grasp of things,” it can contribute to the cultivation of the philosophical habit of mind. JEL: A11, A20, B40. Key words: John Henry Newman, university curriculum, integration.*

[Economics is] a science simply lawful and useful ... at the same time dangerous and leading to occasions of sin ... and in consequence, if studied by itself, and apart from the control of Revealed Truth, sure to conduct a speculator to unchristian conclusions. – John Henry Newman, *The Idea of a University* (Newman, 1982 [1873], p. 64)

Ask a few non-economists and you will learn that economics is practical and abstract, highly developed and barely started, focused on

Editor’s Note: *This paper was presented at the Twenty-Fifth Anniversary Conference of the Association of Christian Economists, “Three Perspectives on Economics and Faith,” Baylor University, April 2009.*

Author’s Note: *Assistant Professor and Chairman, Department of Economics, Ave Maria University, 5050 Ave Maria Blvd, Ave Maria, FL 34142-9505. email: gmartinez@avemaria.edu.*

money-making or on politics or on self-satisfied mental gymnastics. Some will insist on its *inclusion* in a university due to its practicality, and others for its *exclusion* due to its practicality. Some might quote Aristotle's lukewarm endorsement: "The discussion of such matters is not unworthy of philosophy" (Aristotle, 1941, 1.9).

If asked how economics should interact with other disciplines, most economists would not be able to give a full answer either. To attempt an answer, this paper goes back to "one of the major figures of the nineteenth century" (Oslington, 2001, p. 826) and to one of the most widely recognized educational classics, John Henry Newman's *Idea of a University* (Newman, 1982 [1873]). Newman's university is one whose main role is to teach its students how to think, which puts each discipline in its proper place and in union with all others, and from which no discipline may be systematically excluded. His claim is that truth is a unity which our minds can only grasp in partial approaches. Thus each specialized effort—each individual science—contributes and is supported by the efforts of other sciences, in proportion to the importance of its field and the breadth and maturity of the science itself. Moreover, to know the truth is a good thing in itself, and the cultivation of the habit of applying reason to the experience of our senses is the primary task of a university.

In this context, and while fully *agreeing* that economics is valuable and important,¹ the *Idea* singles out our discipline as an example of the dangers of carrying out a study without regard to its place within the circle of knowledge, without awareness of the partiality and incompleteness of any given approach, and without reference to other disciplines for correction, direction, and evaluation (Newman, 1982 [1873], pp. 64-71; also see Ker, 1990, pp. 27-28). Because Newman devotes so many words to our discipline (three sections of Discourse IV), taking it as an example of how a perfectly good science can be led to extravagance, the present application of the ideas of the *Idea* should be particularly illuminating for economists.

The *Idea* was written as a series of speeches and essays upon the foundation of the Catholic University of Ireland, and was aimed at addressing the concerns of a variety of parties who disagreed on the expediency of founding such a university and on the components of its curriculum.² Newman argued (against political expediency and utilitarian philosophy) that a university worthy of the name could not exclude any discipline if it was to aim for knowledge as its own end; its special role was to bring them all together, as "the mansion-house, of the goodly family of the Sciences, sisters all, and sisterly in their mutual dispositions" (Newman, 1976, p. 421).

One of the strengths of the *Idea*, and what gives it permanence, is that in it Newman set out a *theory* and not a description of any particular university. He had in mind what Oxford could have been and was in danger of no longer being and what the University of London had been founded *not* to be. Newman wrote lectures in defense of a pedagogical tradition that had always been more aspiration than reality, and that was rapidly becoming endangered. Today, nearly all modern universities “are examples of what was once London University’s prerogative, the university as ‘bazaar, or pantechmicon’ . . . Today’s university no longer offers a unified education, for there is little consensus to what this might entail, little sense of a shared culture for which it might fit people” (Loughlin, 2009, pp. 229-230).³

Newman’s fears, not his hopes, have become reality, and the tendencies against which he fought in his times “are no less prevalent in ours,” but are probably more so (Dulles, 2001, also see Pelikan, 1992, p. 61). While the university has changed tremendously, what Newman had to say in 1852 has lost nothing of its relevance to the main concern of this paper—the place of a discipline in the circle of knowledge. We have come to expect disciplines to ignore each other; attempts at integration are frequently found to be either superficial or totalizing (see MacIntyre, 2009, p. 16). In his subtlety of thought, striking a hard balance between opposing poles and effecting a unity in tension in which it is hard to tell if he is more opposed to one tendency or to its opposite (Dulles, 2002), Newman helps us conceive of a vision in which specialization and integration can coexist and be of mutual aid.

Section one of this paper lays out a Newmanian view of the value of disciplinary specialization and the role of theory in the cultivation of the intellect and of the meaning of integration. It also lays out an account of the appropriate degree of disciplinary focus and abstraction that does not build on Newman explicitly but is consistent with his thought. Section two applies the foregoing to economics—its object of study and its peculiar approach. The principle that knowledge is a whole and that the separate sciences are but a part of this whole suggests that economic knowledge is best pursued for its own sake, as long as it is understood—especially in practical applications—within the context of the rest of what we know about man. A corollary is that economic theorizing is the discipline’s special contribution to life of the intellect. A final section concludes.

1 The Circle of Knowledge

If a University is a seat of universal knowledge, it cannot in principle exclude any discipline (Newman, 1982 [1873], p. 45). An essential part

of the definition of the university is to be open to the study of any science and to be willing to interact with any intellectual pursuit.⁴ Newman held as patently obvious that “the various branches of science are intimately connected with each other, and form one whole, which whole is impaired, and to an extent which it is difficult to limit, by any considerable omission of knowledge, of whatever kind,” without denying that disciplines vary in their influence on other disciplines (Newman, 1982 [1873], p. 54). The fundamental claim is this: truth is a unity because all that is knowable comes from the same Creator, from which it follows

that all the sciences come to us as one, that they all relate to one and the same integral subject-matter, that each separately is more or less an abstraction, wholly true as an hypothesis, but not wholly trustworthy in the concrete ... needing the support and guarantee of its sister sciences, and giving in turn while it takes—from which it follows, that none can safely be omitted, if we would obtain the exactest knowledge possible of things as they are (Newman, 1982 [1873], p. 45).

Hence a discipline that studies a very large part of reality (and looks at many kinds of objects) will often interact with many other disciplines. The broad science, then, is more important than the narrow science.

Yet because our minds are not powerful enough to have a full grasp of everything, we must specialize, as long as we see our special study as a part of the whole.⁵ The idea is to know “‘a little, but well’; that is, really *know what you say you know ... and what you do not know*” (Newman, 1982 [1873], p. 251, emphasis added). Thus intellectual specialization is not an abandonment of Newman’s vision. He “imagined ... not the universality of the Enlightenment, which resides in the knowing subject who would comprehend all things encyclopedically, but [relied on] an older tradition that looked to know the universe, and through the universe, the universe’s creator, who alone has universal knowledge” (Loughlin, 2009, p. 232).

Intellectual specialization increases the depth of our knowledge and makes our own discipline more valuable. As we advance in knowledge, we develop theoretical schemes, “arrange and classify facts ... reduce separate phenomena under a common law ... trace effects to a cause” (Newman, 1982 [1873], p. 34). We are forced to master our starting points, to establish firm avenues of advance, to interact with other knowledgeable scholars, and to ascertain what we have learned. With luck, the realization

of the narrowness of our intellectual specialization teaches us to be humble about what lies outside of our expertise (Newman, 1982 [1873], p. xlv). Intellectual specialization, then, and the development of theoretical knowledge that accompanies it, teaches us to *think*.

The very quest for truth calls for knowledge of causes, rather than a categorization of ephemeral phenomena. The scholar seeks to *understand*, and understanding is the fruit of a logical, theoretical scheme that orders our sense experience into cause and effect (Newman, 1982 [1873], p. 85, and also Pelikan, 1992, p. 38), which in turn is the fruit of specialized work in a discipline. A well-formed intellect is one that is constantly “philosophizing:” looking for reasons, putting in order, connecting with causes, irresistibly impelled to categorize and organize, to analyze and explain, to synthesize and evaluate what the senses perceive. Logical inference is

the great principle of order in our thinking; it reduces a chaos into harmony, it catalogues the accumulations of knowledge; it maps out for us the relations of its separate departments; it puts us in the way to correct our own mistakes. It enables the independent intellects of many, acting and re-acting on each other, to bring their collective force to bear upon one and the same subject-matter, or the same question A logical hypothesis is the means of holding facts together, explaining difficulties, and reconciling the imagination to what is strange (Newman, 1979, p. 228).

A science is more valuable if it has uncovered more facts, more generalizations, more constants and invariants, more stable causal relations; if its methods are surer, better understood, and more clearly appropriate to the subject matter; if its methods and conclusions are more readily applied to new areas of thought; and if it withstands better the discovery of new facts or new modes of analysis. A discipline that is not very mature is no more likely to be certain about the facts of its field than any other overlapping discipline.

The capacity of a discipline to mature, ultimately, depends on the degree to which the object of study itself is less changeable, so it is more amenable to deductive reasoning and more invariants can be discovered about it. This line of thinking, which has no implication for the usefulness of a discipline, since it is clear that theoretical sciences depend on

empirical sciences (Newman, 1982 [1873], p. 85), would put theology and metaphysics above biology and physics, which in turn are higher than economics and sociology, which in turn are higher than most professional fields.

The Appropriate Degree of Richness

Specialization, for all its benefits, limits our field of vision and makes our discipline less trustworthy in practical matters. Logical argumentation requires the scholar to assume away all irrelevant aspects until an undisputable connection between abstract objects of thought has been established and the argument is “meagre but precise.” The more a discipline advances—the more perfect it is—the more *incapable* it becomes of settling particulars and details in concrete applications (Newman, 1979, pp. 215, 227). The consequence is that “as to Logic, *its chain of conclusions hangs loose at both ends*; both the point from which the proof should start, and the points at which it should arrive, are beyond its reach; it comes short both of first principles and concrete issues” (Newman, 1979, p. 227, emphasis added).

To fill the gap, we go beyond our discipline: we supplement pure logic with something more subtle and elastic. Rational argumentation, indispensable as it is, only goes so far. In concrete cases, we rely on other disciplines and on the experience, common sense, and judgment of the practitioners (Newman, 1979, pp. 228, 281; Newman, 1982 [1873], pp. xlv, 85). The connections involved in application to reality may not always be logically rigorous, precisely because logic is an abstraction, but to exclude or demean another discipline is to put ours at risk of error and embarrassment, a risk greater in proportion to the importance of the other discipline’s field of study and the greater that discipline’s richness, breadth, and depth (Newman, 1979, p. 227; Newman, 1982 [1873], p. 45).

To prevent embarrassment, we might have to look at our object from more angles, taking more aspects into explicit consideration, expanding our study to take in more disciplines; that is, our study might require more *richness*. Making our study richer (and less *sharp*) comes at a high cost in time and resources; it tempts us to superficiality and it complicates the work of establishing solid foundations. The study of a subject, then, involves the choice of the appropriate level of richness. Insisting on more richness than appropriate can be a barrier to understanding. A study can be too paltry for its subject, or excessively ambitious. The virtue of choosing the *via media* of as many aspects as necessary, and no more, is the virtue of scholars of erudition and judgment, a fruit of the success of the discipline, of the

correctives offered by its neighbors, and of their reliance on a tradition of communal thought and reflection (Newman, 1982 [1873], p. xlvii).

The golden mean between excessive and insufficient specialization would seem to depend on the degree to which the object of study is a complete whole—an *autarchic unity*, containing all of the explanation for itself within itself. The more something is made of parts, the more of the explanation to each part lies outside of that something, apart from the other parts. The more a thing is a unity, the more each aspect of the thing must be studied in relation to its other aspects. Consider a rock. If you split it into halves, each half is still a (smaller) rock. Split Jimmy into halves and the result is not just two smaller Jimmies, but something entirely different. It is impossible to conceive of splitting God. Lacking a principle of unity, the rock does not contain within itself an explanation for why we find it all together in one place. Jimmy does, but only to a certain degree. God is his own explanation. Hence we may rank God *above* man *above* nature.⁶

For example, to the query “what is a rock?” most people would respond with a description of the rock’s physical characteristics or chemical composition. To be told what rocks are used for might be interesting, but does not answer the question. Thus most people would rely on a small set of disciplines to explain the nature of inanimate objects, delegating to other disciplines the study of the rock’s origin or purpose. At the other end of the continuum, the theologian cannot just “rely on other disciplines” to understand her subject: only a crank would think that God’s mercy and justice (and being and knowledge and love) can be understood apart from each other—they have to be understood all together if one is to say anything sensible at all about any individual aspect.

The human and social sciences are in between: man is not a perfect unity, but he is a unity nonetheless. Man can be described biologically: we can describe our motivations, habits, and needs; we may refer to the purpose of human life. No one feels terribly satisfied with a purely chemical explanation of, say, love, even if what we understand as love might have chemical implications. At the same time, no one insists that the act of brushing one’s teeth must be described philosophically in order to understand it. Again, God does not depend on his creation; rocks lack a principle of unity. But human beings are both dependent and wholes; our parts interact with each other and the rest of the universe interacts with us. Because human beings are neither at the top nor at the bottom of the chain of being, we need not keep all aspects of man in mind at all times (as we would for the study of God), but we cannot completely exclude all other aspects besides ours (as we would for the study of rocks). It would seem

that all aspects of human beings are somewhat interrelated and somewhat separable.

Each approach to the study of human beings in society (the economic angle, the psychological angle, the sociological angle, the political angle) has greater autonomy than that enjoyed by the different fields of theology, but that autonomy is more constrained than that of individual approaches to the study of rocks. Social scientists, then, depend on both specialization to achieve their aim, but also on interdisciplinary interaction—perhaps more than do theologians or geologists. Hence social scientists stand to benefit, perhaps more than others, if they place themselves properly in the circle of knowledge, if they relate rightly to other scholars, and if they are quick to appeal and defer to relevant expertise.

Integration

The combination of knowing what we know in our own field of specialty, of knowing our science's place among others, and of knowing whom to rely upon in the field of our ignorance, is what Newman calls *the philosophic habit of mind*, the real fruit of a university education (Newman, 1982 [1873], pp. 345-347). *Integration* includes—perhaps it largely *is*—a mental habit of knowing when to rely on one's approach and when on others', of spotting mistakes and biases in partial advances, and of seeing the real overlap hidden under superficial disagreement. To lack this habit, to work outside of a university, is to put oneself "in danger of being absorbed and narrowed by his pursuit, and of giving Lectures which are the Lectures of nothing more than [an] economist" (Newman, 1982 [1873], p. 126).

Newman's antidote against becoming "absorbed and narrowed" is not that we should pursue a multiplicity of disciplines until we are the possessors of "some kind of supergeneral science which embraces all the other sciences" (Ker, 1990, p. 8; Pelikan, 1992, p. 41). Acquiring more knowledge does not give us, by itself, the intellectual resources to put our science in its place.⁷ The "science of sciences" is simply and nobly "training the mind to be accurate, consistent, logical, orderly ... a result of learning to think properly" (Ker, 1990, p. 8). Perhaps paradoxically, one learns to think properly largely in the pursuit of one's own discipline.

It is a liberal education—the fruit of learning and working in a university—that gives the scholar the ability to see his work in the context of the whole, to use his methods wisely, and to interpret his conclusions accurately. A liberal education gives people the habit "of viewing many things at once as one whole," of valuing each thing in relation to others, of

looking for causes and consequences, mutual dependences and feedback effects, and of ordering things according to a principle so that they find “their true place in the universal system” (Newman, 1982 [1873], pp. 103-104).

The antidote against intellectual blindness, then, is *our intellectual honesty and the rivalry and the correction of our colleagues*.⁸ We should read and have conversations with other scholars, both in our discipline and outside it. The scholar is required to pursue his field, aware that other scholars are jealous—and rightly jealous—for their own territory. All that Newman asks of “religious writers, jurists, economists, physiologists, chemists, geologists, and historians, [is that they] go on quietly, and in a neighborly way, in their own respective lines of speculation, research, and experiment,” confident that apparent contradiction will be resolved in good time by honest scholarship (Newman, 1982 [1873], p. 350). Newman does not charge the scholar to become a university, but to work “in a University, [where] he will just know where he and his science stand. [K]ept from extravagance by the very rivalry of other studies, he [will gain] from them a special illumination and largeness of mind and freedom and self-possession.” Sincere arguments with our colleagues give us a liberal education, which allows us to come to our own discipline “as it were, from a height” (Newman, 1982 [1873], p. 126).

The work of placing each discipline within its context is a dialogue, a dialectic, a tension that moves researchers to unity (Briel, 1995). Integration is not the imposition of intellectual peace under a single overarching framework (Dulles, 2002, p. 137), but fidelity to one’s discipline and rivalry between disciplines—disciplinary specialization and the intellectual resources to intuit a synthesis, and the intellectual honesty to desire it.

To use an analogy, the health secretary is not expected to be concerned with matters of national security, or the minister of defense to take education and culture into account. Of course the health department will push its concerns as far as they will go. Of course it will lack expertise in many aspects of statesmanship. In the context of a particular problem, it is the role of the head of state to put each concern in its proper place. A discipline, most appropriately, will push its concerns as far as they will go; it is the role of the philosophical habit of mind to put it in its place. A discipline “cannot itself declare that it is a subordinate science,” and as long as it is occupied with “establishing logical conclusions from indisputable premises,” it “must of course direct [its] inquiries towards [its] end” in the pursuit of “an abstract study” (Newman, 1982 [1873], pp. 65-66).

If abstract study requires specialization, the concrete and practical requires scholars and practitioners to go beyond the internal logic of a discipline and engage in a healthy integration that depends on previous specialization.⁹ Because concrete instances—particular facts, practical issues—are too various to be reduced to any particular discipline, no matter how capacious or multicolored, the integration of disciplines occurs most fruitfully in practical matters, in the attempt to solve a specific problem.

Since then sciences are the results of mental processes about one and the same subject-matter, viewed under its various aspects, and are *true results, as far as they go, yet at the same time separate and partial*, it follows that on the one hand they need external assistance, one by one, by reason of their incompleteness, and on the other that they are able to afford it to each other, by reason, first, of their independence in themselves, and then of their connexion in their subject-matter (Newman, 1982 [1873], p. 35, emphasis added).

One might use the work of scholars as an example of the benefits of specialization. Sciences differ in their comparative advantage; instead of producing everything at home—instead of appropriating every methodology—disciplines must pick their own angle. The natural next step—an active market in conclusions—is hampered in practice by the refusal to trade of some (in their mutual mistrust and mutual condescension) and by others' insistence on abandoning specialization. Trade—incentives for which are best provided in concrete practical applications—does occur, but interdisciplinarity is an incomplete market.

This section has outlined Newman's position that because truth is a unity every specialized approach must pursue its goal with regard to what other disciplines have to say. Specialization is a consequence of the human condition—more, it is a sure means to train us in habits of thought. It seems consistent with Newman's thought (although he did not develop this idea) that the sharpness or richness with which an object of thought must be studied depends on the kind of object under study; in the case of the social sciences, this implies a fair bit of specialization *and* interdisciplinary work.

2 Economics in the Circle of Knowledge

To apply the scheme of the previous section to economics, we begin by attempting to describe what economics *is*. Economics has come to be defined less by its object and more by its method, particularly in the wake of Robbins's (1935) famous definition (Backhouse & Medema, 2009).

There are topics of which it is common to speak as “economic” that deal with material provisioning and the accumulation of wealth and its use. In addition to markets and their consequences, economics has been used to explore crime and punishment, the family, politics, manners, and so on, ventures that are readily recognized as “imperialistic” even by those who applaud them.¹⁰

Most definitions of the discipline with currency today—contemporary economists’ understanding of what economists do—suggest that economics is a science of relation and custom and institution, of action and choice and preference, of individual decisions and valuations, dealing largely with recognizably economic topics. Economics uses its tools to deal with the personal choices and the social institutions related to the satisfaction of any unlimited desire, particularly wealth, with scarce resources (Backhouse & Medema, 2009; Ellis, 1950).¹¹ Perhaps, then, it is not rash to say that economics deals, most properly and most fruitfully, with the choices and institutions related to unlimited material desires and scarce wealth, even if the economic method can be used in other areas.

It is useful to distinguish between the breadth of the science and the richness of its toolset: a science can be simultaneously broad and sharp, or narrow and rich. Using Newman’s examples, optics studies the entirety of visible creation—so it is very broad—but only from a particular aspect. Psychology has a very narrow object, which it studies from a variety of perspectives. The scheme in table 1 describes the range of possibilities. Most of the economics profession is the *narrow/sharp* cell, as a look at a list of JEL codes or at the titles of the articles in the 2009 American Economic Journals suggests. Using economic methods on economic topics is what most economists do. Very few scholars rush into the *broad/rich* cell.

As the discipline developed better methods for studying wealth—a very

Table 1: The Scope and Method of Economics

Richness of the Object of Study	Breadth of the Science	
	Narrow	Broad
Sharp	<i>Rational Choice over wealth accumulation and use</i>	<i>Rational Choice over any aspect of social life</i>
Rich	<i>All facets of wealth accumulation and use</i>	<i>All facets of any aspect of social life</i>

sharp and highly portable way of thinking about human action—it applied its tools to other insatiable desires, leading to an explosion of work in the *broad/sharp* cell. In these fields, the insights of the economist can be invaluable and may redefine entire fields of study. Yet just as there are benefits to sharpness, there are costs: attempting to clear up conceptual confusions, sometimes the economic model abstracts “away from the essence of the problem” (Lazear, 2000, p. 142). Economists may posit tradeoffs where no tradeoffs exist (say, marriage), where cost-benefit calculations seem to miss the essence of the matter.¹² In the *broad/sharp* cell, it falls on other disciplines to offer correctives.

Conversely, it would be difficult to pin down one interesting *economic* topic that is entirely dominated by tradeoffs. As action by humans, economic action can also be studied fruitfully by politics, history, sociology, and psychology; by chemistry and biology; by philosophy and theology. It is not infrequent for economists to shrug off, as poorly defined or fuzzy, “questions of philosophy and ethics, history and institutions, broader conceptions of rationality, and various nonmathematical approaches to the subject” (Backhouse & Medema, 2009, p. 230), and in doing so risk embarrassment. In the best of cases, economists who want to work on non-economic explanations for economic behavior stick to their tools but borrow conclusions from other disciplines explicitly (e.g., behavioral economics); often enough, the work on the *narrow/rich* cell (explaining economic phenomena with culture, social capital, political institutions, psychological motivations, etc.) goes no further than relying on proxies.

Theoretical Abstraction and the Appropriate Degree of Richness

Economics has learned more about a wider variety of topics, but at the cost of richness. Would economics learn more about its subject if, instead of limiting its toolset (and borrowing conclusions from other disciplines), it went further and embraced a whole hardware store’s worth of tools? What is the appropriate degree of richness for economic study?

A common answer is *no, economics is like physics; an economic model is like a map* (Mirowski, 1989). Perhaps it is not too controversial to say that human beings exhibit a fairly constant human nature that leads them to act and react in similar ways across time, culture, and space. Both natural and social sciences strive to discover constants and regularities in a field of variation and uncertainty; in both, the usefulness of a model depends on its being “a judiciously chosen set of lies [or rather] partial truths about reality” (Baumol, 1992, p. 55).

Marshall (1890) notes that “the *raison d’être* of economics as a separate science is that it deals chiefly with that part of man’s action which is most under the control of measurable motives; and which therefore lends itself better than any other to systematic reasoning and analysis” (pp. 94-95). Insofar as there are propensities to which human beings are inclined—stable concupiscences or ideals or desires—economics can hope to uncover constants and invariants. And yet, the causes of variation in nature, unlike those in society, are constant over time and space (Boulding, 1992). The natural sciences are batters playing against one superior pitcher with a stable pitching strategy; eventually a (very talented and experienced) batter figures nature out.

Economics, on the other hand, focuses its attention on objects that are contingent on time, space, and culture (such as institutions or particular historical events or specific policies). It is a science of living, changing cultures. Not an infinite lifetime of abstract theorizing, nor endless empirical observation, nor all the judgment of men of affairs will produce incontrovertible and immutable laws of behavior in society. Facing a deep bench of relief pitchers, we will do well if we bat .400 (Hahn, 1985, p. 27).

The realization of the inadequacy of the economic method before the complexity of the human person suggests an “integrative” economics that covers every possible angle, patterned after the metaphor of theology. An advocate for this position would point out that the method of theology also fails to fully capture the ineffable mystery under study. And yet, to put it provocatively, theology is able to hit its target because it is stationary. Similarly, for economics, purely deductive reasoning and purely inductive observation are both inadequate; the best work combines empirical observation with logical deduction and tries to suggest regularities and chains of causality. If this is not “sure knowledge according to causes” (because it is not *purely* based on reason), it is an example of a science’s faithfulness to its subject. Given the constraints of the subject matter, economics has been very successful.

As mentioned above, theoretical and empirical work need each other. But our “line of first defence against madmen and witches” is abstract theory. “The discipline of coherence and proof” inoculates us against cranks (Hahn, 1985, pp. 11, 28, 19), not because bad theorizing is impossible, and not only because good theorizing is a promising means of achieving true understanding of facts, but because of what it teaches the scholar.

Critics of economics often assert that the discipline is not serious enough: excessively committed to a method or a worldview, it is only

interested in an answer if it can be found under a convenient lamppost. One could answer that this is rather a criticism of the modern academy as a whole (Ker, 1988, p. 386), but there is a deeper reason for why this particular criticism is misguided.

There is no understanding, properly speaking, without theory, without some abstraction that focuses on the essentials. “We shall never understand anything if we neither generalize nor idealize,” even if sometimes an over-hasty generalization makes us “think that we have understood when we have not” (Hahn, 1985, p. 15).

Economics has not been a successful social science because it has a more impressive catalogue of facts. It has explained non-economic phenomena and has been emulated by other social sciences because it has developed precisely that “connected view or grasp of things” (Newman, 1982 [1873], p. xliii) that allows its possessor to study, rather naturally, nearly everything that comes before it. Economics is the very example of “method, order, principle, and system; of rule and exception, of richness and harmony” that instills in its possessor “nothing but impatience and disgust at the random theories and imposing sophistries and dashing paradoxes, which carry away half-formed and superficial intellects” (Newman, 1982 [1873], p. xlv). The relative value of disciplines in a university does not depend on which “contains the more wonderful facts, or promises the more brilliant discoveries ... but simply which out of all provides the most robust and invigorating discipline for the unformed mind” (Newman, 1982 [1873], p. 198).¹³

The result is a system for thinking about things, for ordering and analyzing, for raising questions and evaluating answers; its possessor “knows, and thinks while it knows,” disciplined by order and principle, taking no exaggerated view of the importance of any single object (Newman, 1982 [1873], p. 104). Economics provides precisely one such system, capable of reflecting upon and ordering new phenomena as they appear, as much as these may surprise others (Hahn, 1985, pp. 14-15). Some disciplines are “rich in description of details and empirically observed phenomena, but loose and without a parsimonious framework; [they] focus on differences, [while economists] love to generalize, [to be] precise, rigorous, and willing to abstract from details” (Lazear, 2000, p. 129).

This makes economists “able to say something useful, ... less likely to be caught off-guard, [and] more likely to discover problems in the work of others” (Mankiw, 2007). This description is reminiscent of Newman’s portrayal of the liberally-educated as those with “the force,

the steadiness, the comprehensiveness and the versatility of intellect” and with an “instinctive just estimate of things,” which gives them, crucially “a faculty of entering with comparative ease into any subject of thought, and of taking up with aptitude any science or profession” (Newman, 1982 [1873], pp. xlii, xliv).

Without attempting to claim that economics has an answer for everything, good training in the economic method, plus much experience and interaction with master economists, allows economists to be helpful in “issues over which other fields can only wring their hands” (Lazear, 2000, p. 102). The ability to say something “useful” is not the same as the ability to say something true. But the well-formed intellect is capable of astonishing things “even when the mental formation be made after a model but partially true; for, as far as effectiveness goes, even false views of things have more influence and inspire more respect than no views at all” (Newman, 1982 [1873], p. xliv).

Economics and Integration

The strength of economic theory is that it is rigorous and analytic. But the weakness of economics is that to be rigorous, simplifying assumptions must be made that constrain the analysis and narrow the focus of the researcher. It is for this reason that the broader-thinking sociologists, anthropologists, and perhaps psychologists may be better at identifying issues, but worse at providing answers. Our narrowness allows us to provide concrete solutions, but sometimes prevents us from thinking about the larger features of the problem.

This specialization is not a flaw; much can be learned from other social scientists who observe phenomena that we often overlook. But the parsimony of our method and ability to provide specific, well-reasoned answers gives us a major advantage in analysis (Lazear, 2000, p. 103).

To build our view of things, we look upon facts, we abstract and generalize, draw conclusions and confirm hypotheses; we fix our mind upon our subject “till [we have] forgotten there are subjects of thought higher and more heavenly than it” (Newman, 1982 [1873], p. 67). The very habit that ensures our success spells our disaster:

I do not then blame the Political Economist for anything which follows from the very idea of his science, from the very moment that it is recognized as a science.... Given that wealth is to be sought,

this and that is the method of gaining it. This is the extent to which a Political Economist has a right to go; he has no right to determine that wealth is at any rate to be sought, or that it is the way to be virtuous and the price of happiness (Newman, 1982 [1873], pp. 65-66).

The economics profession is criticized not because it is wrong, but because it is right. Economics says things that are true. The facts are well-collected, the logic is impeccable, and the intentions are good. And precisely because it is true, it is “able to instill what is false. [Scholars] speak a narrow truth, and think it a broad truth; that their deductions must be compared with other truths, which are acknowledged to be truths, in order to verify, complete, and correct them” (Newman, 1982 [1873], pp. 69,71).¹⁴

What makes this issue particularly pointed is that if abstraction from the irrelevant is essential for knowledge to advance, we must exclude even practical ends (virtue, health, prosperity, roads and buildings). Basic research and applied research, if not quite separate, are distinct. If we integrate before specializing, if we talk to other disciplines before we have anything to say, we “group together bits of all sorts of knowledge, which have no connection with one another except for the immediate purposes of the moment; and which throw but little light on one another. Our mental energy is spent in going from one to another; nothing is thoroughly thought out; no real progress is made” (Marshall, 1890, pp. 94-95). The conversation becomes shallow and self-aggrandizing. It seems that specialization must occur, but away from the practical; interdisciplinary dialogue finds its place in concrete applications.

Let us look more deeply at the issue, relying on Sugden (2000), which is consistent with Newman’s *Grammar* (1979) and echoes J. S. Mill (2008). Economists build models by putting together “credible and pragmatically convenient generalizations” about the phenomenon of interest, along with *ceteris paribus* assumptions and simplifications (Sugden, 2000, p. 16, relying on Hausman, 1992). An unrelenting and unflinching pursuit of this method ends up detaching the model from the reality it was supposed to explain (Sugden, 2000, p. 17). Hence we must mind the gap between fast-moving thought and steady reality:

Somehow, a transition has to be made from a particular hypothesis, which has been shown to be true in the model world, to a general hypothesis, which we can expect to be true in the real world too....

Thus, it should not be surprising if economists leave gaps in their explicit reasoning at those places where inductive inferences are required, and rely on their readers using their own intuitions to cross those gaps (Sugden, 2000, pp. 19, 28).

If the logic is untethered at both ends (Newman, 1979, p. 227), why do we think we can apply a model to reality? What gives credibility to the inductive inference with which we relate a model to the real world? Sugden (2000) argues that a model's credibility depends both on its *internal coherence* and on its *external coherence*, that is, its similarity with the real world. To say that a model of a city "is like" an actual city is the same kind of inductive reasoning required to compare two different, actual cities—in their essential respects. Concretely, we want the model (its starting points, control factors, and predictions) to match the evidence about the real world we have drawn from observation, introspection, intuition, experience, econometrics, laboratory experiments, other disciplines, etc.

By implication, we might suspect that the economic model will be erroneous (or at least not credible) if it is internally incoherent or if its assumptions are disconnected from what is known (by the modeler or by others) about reality. Said differently, because models "leave gaps in their explicit reasoning" that readers are to close by themselves, a model's applicability depends on our use of intuition and of the knowledge we have about the real world (some of it, learned from other disciplines) in addition to the model's own internal coherence. The model may be coherent, but for it to be true, we depend on knowledge whose source is not our discipline.

This helps to refine Oslington's (2001) two models for the interaction of economics and other disciplines like theology. In one model (which seems implied by Newman, 1982 [1873], p. 66, quoted above), "theology [supplies] indubitable moral premises from which the economist reasons deductively." In a second model, economists are instructed by moral philosophers and theologians on the goals of the economy, on what fields of inquiry are urgent and which are off-limits, as well as what are the acceptable simplifications, characterizations of human behavior, and modeling strategies (Oslington, 2001, p. 837).

A third model, not inconsistent with the above, suggests that integration is a two-way street, in which sciences are "sisters all, and sisterly in their mutual dispositions" (Newman, 1976, p. 421). Economics is an abstract study that cannot provide for itself its own first principles, teach itself its own goals, or show itself its own application in concrete cases. Moral theology, too, is an abstract study, incapable of judging in particular

circumstances (say, where tradeoffs between partial goods may exist). Sociology, history, ethics, and economics complement each other: each provides a partial proof of a partial view of reality; knowledge advances in an integrated way if these partial proofs are brought into convergence. A dynamic (and perhaps acrimonious but hopefully charitable) interaction between disciplines teaches all the proper place and proper limits of their disciplines, in charity, intellectual honesty, and willingness to moderate claims for the sake of truth. As a result scholars would cultivate the philosophical habit of mind, assigning to each discipline its specific role and contribution—not as superscience of everything, but a *sense*, a habit, learned from direct experience, from many fights, from trial and error, and from following a tradition (Ker, 1990, p. 8).

To say that economics can be a good servant of prudence—and that to neglect economic thinking is to increase the chance of the wrong inference or the wrong decision—is not to say that economics should be expected to provide moral guidance for economic activity. We should not complain when economics fails to provide it.¹⁵ But we should complain if, when faced with a concrete issue, economists (and those who learn from them) fail to recognize the limitations of the discipline and presume to speak normatively instead of searching for moral criteria where they are usually found (Ker, 1990, p. 27). That lack of moderation is the bitter fruit of a fragmented university in which disciplines do not talk to each other because each is supposed to be the measure of the universe.

Some critics of the discipline, in this view, make the same mistake as the economists they condemn. They expect every scholar to give us the full, right answer every time he is asked a question, implicitly assuming that integration is to reside in each individual scholar and not in the community of scholars (Loughlin, 2009, p. 232). They imagine economics as a complete worldview, supplying its possessor not just with “an apparatus of thinking” but with a system of ethics and a motivation for action, and they judge the discipline from that standard.

The economist who pursues integration (a word Newman never uses in the *Idea of a University*) in the search for truth puts his science in its proper place, in relation to other sciences, and in the context of a particular problem. He knows what his discipline has taught him (and does not surrender it), what knowledge he lacks, and what are the disciplines that can teach him (and does not encroach on them). It is the University, not the multischolar, who is

the high protecting power of all knowledge and science, of fact and principle, of inquiry and discovery, of experiment and speculation;

it maps out the territory of the intellect, and sees that the boundaries of each province are religiously respected, and that there is neither encroachment nor surrender on any side (Newman, 1982 [1873], p. 345).

Put differently, “a particular model can neither be judged good nor bad in the abstract. Only *when related to the issue for whose analysis it is meant* to be used can one judge its quality” (Baumol, 1992, p. 55, emphasis added).¹⁶ Over concrete topics of common interest, approached from their own fields of specialization, scholars could be given opportunities and incentives to butt heads (in journals, conferences, panels, team-taught courses, etc.). If the topic, rather than the methodology, is the unifying thread, we avoid the superficial integration of surrendering our intellectual claims. In a University,

professors are like the ministers of various political powers at one court or conference. They represent their respective sciences, and attend to the private interests of those sciences respectively; and, should dispute arise between those sciences, they are the persons to talk over and arrange it, without risk of extravagant pretensions on any side, of angry collision, or of popular commotion. A liberal philosophy becomes the habit of minds thus exercised; a breadth and spaciousness of thought, in which lines, seemingly parallel, may converge at leisure, and principles, recognized as incommensurable, may be safely antagonistic (Newman, 1982 [1873], p. 346).

3 Conclusion

This paper has argued, a bit paradoxically, that economists who want to work for the integration of knowledge should not write papers like this. Rather, they serve truth better by cleaving to their craft and their conceptual frameworks, and by joining battle with scholars in other disciplines in topics of common interest. The job of economists, as economists, is to follow the facts and the logic wherever they go, studying and teaching our discipline within a University, that is, within a dialectic of mutual correction and illumination. It is by *really knowing what we say we know* that we serve the quest for truth and the cultivation of the philosophical habit of mind. By being committed to our discipline, we advance the cause of truth and contribute to the enlargement of our students’ minds.¹⁷

If our discipline is interesting, it is because it deals with the interaction of some of the sharpest tools known to the human intellect with the actions

of living human beings. It is interesting because it is another way of having extraordinary insights into ordinary life, of uncovering what has been under our noses all along. With economics we can look at ordinary life and put it in some kind of order, dissect its parts using certain tools, and identify some of its relations. We can “leaven the dense mass of facts and events with the elastic force of reason” (Newman, 1982 [1873], p. 104). The endeavor is exhilarating and the answers—the partial, tentative answers—can be used to improve the human lot.

Even if what it offers is not enough, economics has something to offer; in return, other disciplines give it its meaning and purpose. This implies fidelity to the discipline—a faithfulness that is neither surrender nor encroachment, involving both its zealous defense and the desire to locate it in its proper place, defined by the claims of other disciplines and by the overall goals of economic research and economic activity.

Endnotes

- 1 A thorough investigation of Newman’s interaction with the discipline of political economy (Oslington, 2001) found that “scattered through Newman’s letters are positive comments about the value of economic analysis together with a healthy reluctance to pronounce judgment on technical issues beyond his competence.” Moreover, “among the first group of professors recruited for his university was a professor of political economy, John O’Hagan, whom Newman vigorously defended from clerical interference” and “it appears that the content of the lectures on political economy at the Catholic University did not differ radically from that of the lectures of the Whately professors at Trinity College Dublin” (pp. 833-834). Moreover, the original Discourse V of the *Idea*, found as app. I in the Ker edition, contrasts a variety of less-worthy intellectual pursuits with Political Economy, which in turn is implicitly acknowledged as a legitimate branch of knowledge (Newman, 1976, p. 420).
- 2 The first version of the first (more theoretical) half of the *Idea* was written in 1852; the lectures and essays in the second half—practical applications of the ideas of the first half to literature, medicine, etc.—were given while he was the Catholic University of Ireland’s first Rector, and were published separately in 1859. The whole was published in 1873; minor revisions were made between that date and the final, posthumous printing of 1891 (Newman, 1976, p.xli). In agreeing to found the university, he was motivated by similar struggles years earlier at Oxford (Ker, 1988; Pelikan, 1992). For evidence of its

status as an undisputed educational classic, see Pelikan (1992, pp. 6-7) and also Ker (1990, p. 1).

- 3 The quotation is from the original Discourse V of the *Idea* (Newman 1976, p. 421).
- 4 Practical, political, and logistical considerations might limit the number of departments and professors in an individual university, today and in 1852. But, encouraged by its openness to all knowledge in principle, the university would interact with other institutions, pursuing universal knowledge in community. Advances in communications technology, perhaps, have made this vision more attainable than in Newman's day (Loughlin, 2009, p. 225; Pelikan, 1992, p. 41).
- 5 See Newman (1982 [1873], pp. 33-34, 76), and also Loughlin (2009, pp. 227-228). In apparent opposition to this interpretation, one may quote Newman (1908), who wants intellect and religion to "be found in one and the same place, and exemplified in the same persons." But, in context, this refers not to a conflation of theology and secular sciences, but to the coincidence of culture and devotion: "I want the intellectual layman to be religious, and the devout ecclesiastic to be intellectual" (p. 13). See also Vatican II (1965, para. 36).
- 6 Newman did not speak of disciplinary hierarchy, but of a circle of knowledge (Ker, 1988, p. 392). There is a rhetorical reason: the *Idea* is an argument, made stronger by humility, for the inclusion of theology in the university. A deeper reason is the insistence that all sciences must learn from each other, a point made clearer by reference to the mutual dependence among approaches to the truth.
- 7 See Loughlin (2009, pp. 225, 227-228) and Ker (1988, p. 390). "Different types of judgment are needed for different types of evidence; a scientist has a well developed illative sense in his or her field" (Oslington, 2001, p. 236), but may be a disaster in someone else's. A lack of the specific talent—the specific illative sense—for the particular field means that a superficial multi-scholarship produces no true learning and no accurate insight: "A thorough knowledge of one science and a superficial acquaintance with many, are not the same thing" (Newman, 1982 [1873], p. 109). Newman's alternative to the multi-scholar is a reliance on scholars in other fields, their conclusions, and their criticism, appealing and deferring to external authorities in matters where they might have competence, "on the principle, *Cuique in arte sua credendum* [trust each in his art]" (Newman, 1982 [1873], p. 5).
- 8 The key passage, a very famous and eloquent paragraph, is Newman (1982 [1873], p. 76). See also John Paul II (1990, para. 16).

- 9 This view, implicit in Newman (1982 [1873]), is more fully worked out in Newman (1979). I wish to thank an anonymous reviewer for this point; also see Oslington (2001). Newman (1979) deals with the rational basis for religious belief through laying out the faculty (the illative sense) that we use to answer questions of concrete fact, e.g., is Great Britain an island, am I likely to die, whose brother is whom, does God exist, is the Church trustworthy.
- 10 See Lazear (2000). Part of my strategy in this section is to rely less on the specialized literature on economic methodology and more on the methodological musings of practicing economists, particularly in the collections by Szenberg (1992, 1999). The hope is that the actual practice of economics, as reflected upon by its best-known practitioners, will yield some insight.
- 11 An interesting tangent would use this paper's argument to adjudicate between neoclassical tools and institutionalist or Austrian methodologies. While such an exploration is beyond the scope of this paper, it seems consistent with Newman's views to say that the scholar must be faithful to his discipline, and must work within the community of scholars; and that the most fruitful scientific revolutionaries are found among the most faithfully committed to their tradition (Kuhn, 1977, p. 235).
- 12 Even there, that kind of inappropriate investigation might yield valuable results: "spouse matching" is analogous to "co-worker quality matching," (Lazear, 2000, p. 110) and helps explain the "brain drain" in development economics.
- 13 The context of this quotation is a defense of classical literature (against, say, theology or physics) as a sure means for teaching pupils how to think. However, "if it could be shown that a scientific or theological course of studies could train the mind as effectively, then the study would be considered by Newman to provide an equally 'liberal' education" (Ker, 1990, p. 6). Similarly, in this section I am not interested in what economic methodology is more adequate for acquiring facts or making discoveries (mainstream or heterodox), but rather in which "provides the most robust and invigorating discipline for the unformed mind."
- 14 Economics is not the only science to make this mistake, and that is precisely Newman's point. In his example, the anatomist discounts the soul, the historian discounts Revelation; both think that theology and economics surely exaggerate their claims. See Oslington (2001) for a very useful study of the context and meaning of this passage of the *Idea*

of a University, which is a commentary on Nassau Senior's inaugural lecture as the first Professor of Political Economy at Oxford.

- 15 A pursuit that is intellectually excellent may not contribute to virtue (Ker, 1988, p. 385 and Newman, 1982 [1873], pp. 82, 90-93). "Some of [Newman's] contemporaries in the church were suspicious of political economy and wanted it, if carried on at all, to be carried on as a branch of moral philosophy or theology. Newman clearly rejects this position, assigning it a place alongside the more established sciences" (Oslington, 2001, p. 834). In the case of apparent conflict between secular science and Revelation, Newman "counseled patience and restraint on the part of hierarchical authorities and scientists alike," sure of the eventual reconciliation between truth and truth (Dulles, 2001; Newman, 1982 [1873] p. 347).
- 16 In context, this does not mean merely empirical verification of theory, but that the practical context determines the appropriate kind of theory and suggests the right interactions with other disciplines. Using Baumol's example, his own inventory model of money demand is irrelevant for explaining inflation, but helpful for corporate finance.
- 17 And, as MacIntyre (2009, p. 14) argues in a parallel context, this is how we respond to our divine calling.

References

- Aristotle.** (1941). *Politics*. In *The basic works of Aristotle* (R. Mckeon, Ed., B. Jowett, Trans.). New York: Random House.
- Backhouse, R.E., & Medema, S.G.** (2009). Retrospectives: On the definition of economics. *Journal of Economic Perspectives*, 23(1), 221–233.
- Baumol, W.J.** (1992). On my attitudes: Sociopolitical and methodological. In M. Szenberg (Ed.), *Eminent economists: Their life philosophies* (pp. 51-68). New York: Cambridge University Press.
- Boulding, K.** (1992). From chemistry to economics and beyond. In M. Szenberg (Ed.), *Eminent economists: Their life philosophies* (pp. 69-83). New York: Cambridge University Press.
- Briel, D.J.** (1995). *Catholic studies programs in the contemporary Catholic university*, from <http://www.stthomas.edu/cathstudies/conferences/Summeruniversityconf/summerseminar/Briel%201995.pdf>.
- Dulles, A.** (2001). *Newman's idea of a university: Still relevant to*

- Catholic higher education*. Address given upon receiving the Cardinal Newman Society's John Henry Newman Award for distinguished service to Catholic higher education. from www.catholicighered.org/CardinalDullesAddress/tabid/400/Default.aspx.
- Dulles, A.** (2002). *John Henry Newman*. London: Continuum Press.
- Ellis, H.S.** (1950). The economic way of thinking. *American Economic Review*, 40(1), 1-12.
- Hahn, F.** (1985). *Money, growth, and stability*. Oxford: Blackwell.
- Hausman, D.M.** (1992). *The inexact and separate science of economics*. Cambridge: Cambridge University Press.
- John Paul II.** 1990. Apostolic Constitution *Ex Corde Ecclesiae*, 15 August.
- Ker, I.T.** (1976). Editor's introduction. In Newman, J. H. (1976), *The idea of a university* (I. T. Ker, Ed.). Oxford: Clarendon Press.
- Ker, I.T.** (1988). *John Henry Newman: A biography*. Oxford: Clarendon Press.
- Ker, I.T.** (1990). *The achievement of John Henry Newman*. Notre Dame, IN: University of Notre Dame Press.
- Kuhn, T.S.** (1977). *The essential tension: Selected studies in scientific tradition and change*. Chicago: University of Chicago Press.
- Lazear, E.P.** (2000). Economic imperialism. *Quarterly Journal of Economics*, 115(1), 99-146.
- Loughlin, G.** (2009). Theology in the university. In I.T. Ker & T. Merrigan (Eds.), *The Cambridge companion to John Henry Newman* (pp. 221-240). Cambridge, UK: Cambridge University Press.
- MacIntyre, A.** (2009). *God, philosophy, universities: A selective history of the Catholic philosophical tradition*. Lanham, MD: Rowman and Littlefield.
- Mankiw, N.G.** (2007). Blog post: Sociology of Economics. from <http://gregmankiw.blogspot.com/2007/08/sociology-of-economics.html>.
- Marshall, A.** (1890). *Principles of economics*. London: Macmillan.
- Mill, J.S.** (2008). On the definition and method of political economy. In D.M. Hausman (Ed.), *The Philosophy of Economics: An Anthology* (3rd ed.) (pp. 41-58). New York: Cambridge University Press.

- Mirowski, P.** (1989). *More heat than light : Economics as social physics, physics as nature's economics*. Cambridge: Cambridge University Press.
- Newman, J.H.** (1908). Intellect, the instrument of religious training. In *Sermons preached on various occasions*. London: Longmans, Green, and Co.
- Newman, J.H.** (1976). *The idea of a university* (I.T. Ker, Ed.). Oxford: Clarendon Press.
- Newman, J.H.** (1979). *An essay in aid of a grammar of assent*. Notre Dame, IN: University of Notre Dame Press.
- Newman, J.H.** (1982) [1873]. *The idea of a university*. Notre Dame, IN: University of Notre Dame Press.
- Oslington, P.** (2001). John Henry Newman, Nassau Senior, and the separation of political economy from theology in the nineteenth century. *History of Political Economy*, 33(4), 825-842.
- Pelikan, J.** (1992). *The idea of university: A reexamination*. New Haven, CT: Yale University Press.
- Robbins, L.** (1935). *An essay on the nature and significance of economic science*. London: Macmillan.
- Szenberg, M.** (1992). *Eminent economists: Their life philosophies*. New York: Cambridge University Press.
- Szenberg, M.** (1999). *Passion and craft: Economists at work*. Ann Arbor: University of Michigan Press.
- Sugden, R.** (2000). Credible worlds: The status of theoretical models in economics. *Journal of Economic Methodology*, 7(1), 1-31.
- Vatican II.** (1965). Pastoral Constitution on the Church in the Modern World *Gaudium et Spes*, 7 December.

