Civilizations have come and gone. If this or some future civilization is to survive, it will need a civilized macroeconomy. It will need a collective perception of purpose and permanence in the management of our global household. To be precise, it will need moral precepts that are technically as specific as the economic process to which they are addressed. To the needs of this process, moralists must now articulate a specific response, infused with wisdom and prudence and finely tuned to the technical demands of our collective survival. The need to articulate such a response must have motivated Bernard Lonergan to dedicate his dying days to a series of lectures entitled “Macroeconomics and the Dialectic of History.”

Lonergan gave these lectures in the theology department of Boston College in 1980-83, and after a one-year illness, he died before he could arrange them for publication. This choice of a theological venue may well symbolize the belief that theologians have an important responsibility in the communal task of civilizing an uncivilized macroeconomy.

Nor is Christianity alone in this belief. It is shared with all world religions. For example, one reads about “Buddhist economics” in the book entitled Small is Beautiful: Economics as if People Mattered. People matter. To believe this is to affirm the moral values common to Buddhists, Christians, Hindus, Muslims, and hinterland animists who believe that morality enters into all human decisions. Morality enters especially into those decisions that

1. A xeroxed 395-page draft of these lectures can be found in the library of the Loyola School of Theology.
affect the standard of living of entire populations in almost un-
predictable ways. Of such decisions, millions are being made every
minute. Their aggregate effects have consequences, both positive
and negative, on the human good. A preponderance of negative
consequences can shatter the bonds of international solidarity, and
can even hasten the downfall of the present civilization.

PONTIFICAL JUSTICE AND PEACE COMMISSION

This moral consensus among all world religions has been given a
timely and precise formulation by the Pontifical Justice and Peace
Commission in a document published in January 1987, entitled
"An Ethical Approach to the International Debt Question." The
document, divided into three parts, first announces the ethical
principles that characterize the approach to the debt problem.
It then identifies the emergency measures needed to confront the
particular danger of this decade. Finally, it calls for a joint as-
sumption of responsibilities of creditor and debtor countries
whereby future generations of humanity will be assured of a
measure of international solidarity. Among other things, the
document calls attention to the fact of interdependence as a
potential bond of international solidarity.

International solidarity is gravely endangered by fragmentation.
For there also exists a solidarity of evil, giving rise to the theologi-
cal concept of "social sin" and "sinful structures." The faceless-
ness of these impersonal structures makes it difficult to discern the
identity of the principalities and superpowers masterminding these
structures and exploiting human errors. Thus complexity increases.
Third World indebtedness adds immensely to the complexity.

Some of the complicating factors are listed in the Vatican
document:

These factors include the choice of priority sectors, strict selection of
capital investments, reduction in public spending (especially expendi-
tures for reasons of prestige and for armaments), more rigorous manage-
ment of public enterprises, control over inflation, support of national
currency, reform of tax system, sound agrarian reform, initiatives to private
enterprise and the creation of jobs.

The document also mentions people’s need to “receive capital, technology and equipment from other countries.” These and many other factors add up to a global problem of such complexity that many scientific minds are beginning to lose hope about finding any solution except totalitarian oligarchy of either the right or the left. The Vatican document begins with words of hope but ends with the words “before it is too late!”

This may be similar to a danger mentioned by Lonergan in a 1975 lecture: “So when the Roman empire decayed and disintegrated, the church indeed lived on. But it lived on, not in a civilized world, but in a dark and barbarous age . . . If we are to escape a similar fate, we must . . . ,” and there follows a proposal involving theologians collaborating with economists.

PROBABILIORISM

I see in this proposal some grounds for hoping in a collective rediscovery of probabiliorism and a grasp of how this has acquired a new relevance to the six properties of macroeconomic process. “Probabiliorism” is an old term that has had variant meanings in its long history. Here it is taken to mean the moral principle which asserts that in a state of uncertainty about various means of attaining an end that is absolutely necessary, one is obliged to choose the means that will more probably attain that end. Its relevance to macroeconomics is that the emergent standard of living of world population is absolutely necessary, and that, in democratic processes, the economic means to attain that end must respect individual freedoms and will therefore involve a measure of uncertainty, and this in varying degrees. Hence the only moral alternative is to choose those means that have greater probability of attaining an end that is absolutely necessary.

From this there follows a conclusion of utmost importance to democratic civilization: calculating these probabilities is a moral imperative. Its corollary is equally important: there is a moral mandate for an empirical method of calculating these probabilities. The tremendous potentials of computer technology are equal to this moral mandate for an empirical method.

4. Ibid. 608.
EMPIRICAL METHOD

A theologian may conceivably ask: why an empirical method? Is divine revelation not sufficient? If such a question were indeed asked, it might be assuming a dichotomy between divine revelation and empirical method. Even so, Lonergan’s theological viewpoint reveals a rare appreciation for the empirical method and has led to his account of Emergent Probability. This is based on six observable properties of world process in general, and directly applicable to modern macroeconomics in particular, to be discussed below.

Steering the present macroeconomy is like steering the Titanic: it needs a large crew of very intelligent and morally responsible decision-makers to avoid sinking in an ocean of debt negotiations. Irrationality or amorality can sink this ship. This danger is rising in the minds of many passengers.

Of this danger, there are some indications. In current debt negotiations, there is a noticeable trend among creditor nations to deal with debtor nations on a case-to-case basis. Why? In order to conceal criteria? And why should criteria be concealed? (Armaments deals, perhaps?) Concealing criteria — or what amounts to the same thing, the absence of publicly verifiable criteria — is eroding public trust, and public trust is essential to the survival of the international banking system and hence to the promotion of international solidarity. International solidarity is likewise endangered by the growing illusion among Third World debtors that they now have nothing to lose but their economic chains: illusion, for obviously they can also lose their economic gains. Their threat of massive repudiation of bank debts is a posture that is almost as irrational as the bankers’ conditionalities that provoked it. When both sides, fully aware of their interdependence, eventually acknowledge their posturings for what they really are, rational dialogue can begin. This will be the moment for open and sincere discussions of the probabiliorist and empirical requirements.

INTERDISCIPLINARY REFLECTION

These requirements, although of great importance, are beset with a serious difficulty: the interdisciplinary theory needed to

promote dialogue between moral science and economic science is yet to be formulated. The technical terminology proper to each discipline — for example, the moralist’s terms “tutorism” and “probabiliorism,” and the economist’s terms “stagflation” and “dynamic equilibrium” — while convenient in each, is unintelligible to the other. Besides terminology, there is the problem of diplomacy. Theologians and economists are situated in different horizons, and each horizon is autonomous. A diplomatic beginning had to be made. The theology department of Boston College made this with Lonergan’s lectures of 1980-83.

This beginning reveals three personal traits of Lonergan: his intellectual interest in mathematics and economics, his psychological need to become a whole person, and his moral need to obey an ad extra mandate. As one theologian’s effort towards interdisciplinary integrity, these three traits can reveal features that anticipate the formulation of an interdisciplinary theory from the theological viewpoint.

During the Great Depression of 1930, the sight of wealthy people at the bread lines in Canada might have evoked Lonergan’s reflections on the economic “surd” afflicting human efforts to understand a disturbing experience; these led to a set of equations aimed at discovering expressions for quantifying economic exchanges. Secondly, his psychological need for wholeness can be read between the lines of his 15-page treatment of “scotosis.” And thirdly, the mandate to address his efforts to the secular world is the ad extra direction now articulated in official directives.

This concern catalyzed Lonergan’s efforts to reflect on the praxis of the knowing agent in the empirical sciences and to anticipate an interdisciplinary theory that can be empirically verified by the knowing agent himself in his own operations: experiencing, understanding, judging and deciding. In the case of macroeconomic morality, the first three operations primarily belong to an economist’s specialty, and the fourth to the moralist’s. This sharp distinction between these two functional special-

ties facilitates the act of deciding in the subject. For the economi-
mist is also a moral agent, and the moralist also needs to judge,
understand and experience the same reality as the economist.

Lonergan's lecture notes do not give much space to the moral-
list except for a remark that "simple-minded moralists" blame
greed as the prime cause of economic dysfunctions. This reduc-
tionism is both simplistic and undiplomatic. To attribute dys-
fuctions to ignorance may also be undiplomatic. It is more
correct to say that the mutual distrust between economic sectors
prevent significant data from being completely available for
empirical analysis, and as a result, the empirical dynamics are "not
understood, not formulated, not taught," said Lonergan.

Understanding economics is hard enough. Understanding
modern global economics is even harder, because here we are
dealing with a vastly bigger scale and complexity. We are dealing
not only with individual decision-makers but also and especially
with global structures that have become extremely impersonal.
This impersonality tends to blur moral responsibility. And yet,
the theologians' terms like "social sin" and "sinful structures"
indicate that these structures are morally responsible for their
collective decisions. In other words, even if some multinational
 corporations were composed entirely of Buddhist lamas and
Christian ascetics who had been completely purged of greed, if
they were to remain ignorant of the dynamics of global economics,
they would still be morally responsible for the oppressive effects
of their "sinful structures." The sinfulness here would be wilful
ignorance.

SIX PROPERTIES OF MACROECONOMIC PROCESS

To promote the understanding of global economics, Lonergan
analyzes the six properties of world process that are operative in
modern macroeconomics. These six properties are: (1) large
numbers, (2) long intervals of time, (3) spatial concentration and
distribution, (4) uncertain stability, development and breakdowns,
(5) in accordance with interdependent schemes of recurrence with
probabilities of emergence (6) and of survival: in short, "emergent
probability.""10

It may be helpful to attempt here a preliminary paraphrase of these six properties:

1. There are large numbers of decision-makers in an ideal macro-economic community. These include all the adult members of a world population, from the heads of households in rural villages to the directors of international banking syndicates. Deviating from this ideal situation, the great majority in today’s community tend to surrender their decision-making roles to an oligarchic minority. This surrender, conditioned by lack of educational and other opportunities, fails to live up to the ideals of “economic democracy” and deprives the community of the advantage of large numbers needed to optimize collective insights. As one example, people-power in Manila overthrew an armed dictatorship by sheer numbers. Similarly, large numbers of individual insights can clarify decision-making processes in a macroeconomy. Large numbers harness the immense intuitive and intellectual resources of people-participation in these processes.

2. The interval of time since the first Industrial Revolution is now seen to be too short to allow the lessons of the longer cycle of decline to be learned. Still the five cycles of expansions and recessions, called the Kondratieff cycles, have at least focussed attention on recurrent recessions. Longer intervals of time will be needed to gather reliable data and to discern the aggregate significance of the variables embedded in the data. Still longer intervals of time will be needed to achieve mutual trust and openness in public sharing of relevant data.

3. Spatial concentrations are associated with increasing systematizations. Macroeconomic industry, exchange and finance tend to concentrate in metropolitan areas, to facilitate communication within the community. This tendency, due to human inadaptation, also concentrates decision-making powers in a small segment of world population, thus promoting dictatorial oligarchies.

4. Uncertainty has been a consistent feature of macroeconomic history, for according to a post-Keynesian contention, “the past cannot be changed and the future is uncertain.” Still many decisions cannot be postponed and these are morally rationalized, rightly or wrongly, on the basis of future expectations. Probability expectations can, in principle, be quantified and thus help in making morally responsible decisions in the context of uncertainty.
But there is as yet no consensus about a method of arriving at this quantification.

5. Lonergan views circulation of payments as a network of interdependent schemes of recurrence, each scheme being an aggregate of individual types of payment-flows. This view permits a quantification of probabilities based on functional dependencies alone. From time to time, such schemes have indeed emerged, e.g. in periods of expansions, thus furnishing data that will enable analysts to construct various empirical models of the probability of emergence.

6. However, each emergence generally moved against an increasing resistance to higher viewpoints. Financial absolutism resists viewpoints that include moral constraints. This resistance can now be seen to decrease the probability of survival of the scheme. So economic expansions were followed by contractions. So financial empires have risen and fallen. So civilizations have progressed and declined.

More than national and regional economics, global economics requires close interaction between technological constraints (that can be calculated and predicted) and behavioral decisions (that are morally free and morally unpredictable). If decisions are to be both rational and morally responsible, the macroeconomic community requires the insights arising from interdisciplinary dialogue between economists and moralists. Lonergan says:

From economic theorists we have to demand, along with as many types of analysis as they please, a new and specific type of analysis that reveals how moral precepts have both a basis in economic process and so an effective application to it. From moral theorists we have to demand, along with their other various forms of wisdom and prudence, specifically economic precepts that arise out of economic process itself and promote its proper functioning.

Lonergan notes how moral precepts that are not technically specific turn out to be ineffectual.¹¹

NEW TYPE OF ANALYSIS

What new type of analysis did Lonergan have in mind? One hint is in his notion of a "conditioned series of schemes of recur-

rence."

Included in this notion is a type of analysis that functionally relates the old distinction between consumer goods and producer goods to a new classification of payments for the production of each (functionally distinct) type of goods. It functionally distinguishes between stages of production: basic stage, surplus-one stage, surplus-two stage, etc. An aggregate that ignores this functional distinction will numerically differ from an aggregate that affirms this functional distinction. For measuring aggregates is a statistical operation and yields different probabilities when performed in different ways. This difference is generally considered insignificant. But not by Lonergan. His analysis "reveals normative oscillations of profits and prices making manifest the inefficiency or destructiveness of a great deal of present monetary, fiscal, centralist, and growth policies."\(^{12}\) In this sense, Lonergan’s type of analysis is new.

Also new is Lonergan’s empirical method of arriving at an optimum proportion between "normal profit," which is constant, and "social dividends," which vary with the varying phase relations between the stages of production. If this empirical method is used, the biased dogmas concealed in capitalist and communist slogans will eventually wither away.

Also new is the emphasis placed on the old distinction between velocity and acceleration of production. Accelerator stages of production form a "conditioned series of schemes of recurrence." Furthermore, in the context of probabilities, accelerations of production will influence accelerations of payments, both positively and negatively.

Why mention these technical details in a theological study? Because positive and negative accelerations of payments are very crucial to the moral problem of Third World indebtedness. To solve this problem is to dismantle a master-slave relationship between creditor and debtor nations, and to authenticate a preferential option for poorer nations. The abolition of economic slavery within our global household is the moral bottom-line of liberationist theologies. Effective response requires theological insight into Lonergan’s proposal for calculating probabilities and

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for quantifying future expectations. Future expectations furnish
the moral basis for responsible decisions. The prudence morally
required of an economic decision is thus concretized by some
understanding of Lonergan’s proposal. This may be too demand-
ing of today’s theologians. But tomorrow’s theologians may have
no choice in the matter. The Pontifical Justice and Peace Com-
mission, world religions and the economic signs of the times are
all pointing in the same direction.

What does this direction suggest? It suggests that the intellec-
tual formation of theologians of coming decades be made more
interdisciplinary. It must develop alternative skills in a theological
reflection that is not static but moving with the moving viewpoint
of Lonergan’s Insight, particularly of his account of Emergent
Probability. It must develop skills in theological communication,
for “the church can become a fully conscious process of self-
constitution [only] when theology unites itself with all other
relevant branches of human studies.” The kapit-bisig (or arm-
in-arm) style of collaboration with technocratic researchers will
be needed in the strategy of civilizing the macroeconomy.

MUTUAL PRESENCE: PARTICIPATORY CREATIVITY

The ideal macroeconomic community constitutes itself as com-
munity when its individual members, trained in different special-
izations, become present to one another in their shared concern
for the human good. This mutual presence grounds the condition
for mutual interaction whereby the probability of success in-
creases. In the historical example already mentioned, the feeble
courage of individual participants in the EDSA revolution strength-
ened — and was strengthened by — the equally feeble courage of
other participants. The feeling of hierophany was difficult to ignore
in this mysterious play of large numbers, now called “people-
power.” Similarly, people participation (or non-participation) in
macroeconomics can lead to the birth (or death) of a civilized

   364.

14. In Lonergan’s language of arithmetic, the probability “leaps from a product of
    fractions to a sum of fractions.” (See Insight, 121.) From this seminal insight, economic
    analysts may consider constructing a calculus of the probabilities needed to eliminate or
    reduce recurrent recessions in the macroeconomy.
macroeconomy. Stronger than the good will or bad will of oligarchs, people-participation can civilize the macroeconomy by affirming human rationality and moral responsibility.

Today, there is need for a more subtle form of "mutual presence" within educational institutions. These seem as yet unable to prevent their departments from isolating themselves academically from one another. In the present crisis, academe is morally mandated to promote ways of interdisciplinary collaboration particularly between their departments of theology, economics, mathematics and computer science.

The technical complexity of economics and mathematics may at first frighten the theologian. Fortunately, theological formation is increasingly incarnational and immersed in contemporary human endeavor. At the same time, the "user-friendly" aspirations in computer science may yet provide a tool better adapted than printed matter for graphically and rapidly communicating a holistic integration of various levels of symbolic meanings.15 If this happens, it will transform the theologian's fright into friendship and strengthen a kapit-bisig link among educators.

Lonergan's theological groundwork is addressed primarily to the educational sector. Hopefully, it will enable creative educators to find ways of sharing it with all sectors of society: labor, management, consumers, producers, traders, financiers, whether local, regional or global. It will invite participatory creativity.

This creativity is the moral imperative emerging in world religions,16 heading towards convergence at a time when salvation history is marking a millenial turning-point.

POSTSCRIPT AFTER THE OCTOBER CRASH

The stock market serves as a barometric indicator of economic weather. When it fell rapidly in the financial capitals of the world


16. In the last four volumes of Arnold Toynbee's A Study of History, Lonergan sees a new factor emerging "for out of the frustration and disgust of the internal proletariat there come the world religions and a new style of human development." (See Third Collection, 106.) Thus he links up macroeconomics with world religions and with his 1975 lecture entitled "Prolegomena to the Study of the Emerging Religious Consciousness of Our Time." (See ibid. 55-73.)
last October, many have taken the fall to forecast a global recession. Such a forecast can be self-fulfilling. But the fall itself could have been conditioned by faulty forecasting. Man seems caught in a vicious cycle. Can rational man purify the cycle of its viciousness? Is there a "pure cycle"?

Loneran gives an affirmative answer based on the interdependence between technical constraints and human adaptation. To concretize this positive attitude, he proposes several heuristic programs, one of which is a method of improving the accuracy of economic forecasts. This will need new uses of old mathematical insights.

For example, he proposes that parameters like price and quantity of goods be specified not only by magnitude but also direction, for they are "vectors," not "scalars." Could the October crash have been avoided had the forecasts of the preceding months or years been based on the vector reality instead of the scalar assumption? This question can be answered empirically by the brokerage firms that made the erroneous forecasts. (They were probably based on a scalar method that combined the Laspeyre and the Paasche indices; this cannot entirely eliminate wishful forecasting.)

This example highlights the importance of improving interdisciplinary collaboration between departments of economics, mathematics and computer science. Such collaboration is a moral imperative mandated by the survival needs of marginal communities in the Third World. The educational sector must collaborate.