An Introduction to Lonergan's Macroeconomic Theory

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Marquette University Lonergan Colloquium
February 28, 2013

I have been asked to attempt a straightforward exposition of the main features of Lonergan's economic theory. My goal this afternoon is to convey some sense of Lonergan's project *as a whole*, and something of its relevance. While it will not be possible to discuss the various components of his theory in full technical detail, I do hope to introduce Lonergan's notion of economic growth as driven by innovation, his extremely important differentiation of two distinct kinds of production, his full theoretic exploitation of that distinction in the so-called "baseball" diagram, the dynamics of surplus expansions, and finally, the problem of transitioning to a basic expansion (a problem with which the global economy is perhaps now grappling—although not consciously in those terms).

Economy Teleologically Contextualized

Rather than digging into these specific components immediately, it might be more orienting for us to begin by attending to several ways in which Lonergan's approach to economics can be understood as teleological. And so we open with the question: For Lonergan,

what is the end, goal, or purpose of economic activity? What is the economic good of order good *for*? [1]

Lonergan did not seek to impose any *extrinsic* conception of the good upon economics, at least not in the sense of seeking to inject political, cultural, or religious values into economics. He was critical of well-intentioned moralists who would attempt to graft onto economics moral imperatives that misconceived or disregarded the intelligibility of economic process. Yet in his explication of the *intrinsic* finality of economic process *per se* Lonergan did nevertheless elucidate several senses in which economy could be said to have an end, goal, or purpose—and this is not without ethical significance.

First, the productive process "is the totality of activities bridging the gap between the potentialities of nature. . . and. . . the actuality of a standard of living."[2] Although in his approach to economics Lonergan tends to make central the *productive* process, he fully realizes that production is not for its own sake, but for the sake of broadening and deepening a community's standard of living.

Second, this broadening and deepening of the standard of living has indisputably occurred over long historical periods, and has dramatically accelerated in recent centuries. "The long-run effects of technological advance and new capital formation consist in some combination of increased population, reduced work, and improved living standards. In the course of a century the differences in all three respects may be so great that any return to an earlier state of affairs is

[1] This section draws upon an earlier article in which I initially raised this question of the fundamental purposes of economy: "Cosmopolis and Economy: Toward a Critical Human Science of Macroeconomics," *Theoforum*, 2012, vol. 43, 11-33.

[2] Bernard Lonergan, *Macroeconomic Dynamics: An Essay in Circulation Analysis*, Collected Works of Bernard Lonergan, vol. 15, ed. Frederick G. LAWENCE, Patrick H. BYRNE, and Charles C. HEFLING, Jr. (Toronto: Toronto University Press, 1999), 19-20.

regarded as preposterous and is to be brought about only by violence or disaster."[3] A heightened standard of living can be constituted not only by quantitative and qualitative improvements in commodious living, but also by increased aggregate leisure, or an expanding population. Hence some combination of these three ends can be affirmed as purposes of an economy.

Third, Lonergan offers a distinctive theory of long-term economic growth. Economic growth is not uniform and undifferentiated, but normatively requires analysis into two distinct phases of expansion. Normatively, a surplus expansion is to be followed by a basic expansion, which the surplus expansion makes possible. A surplus expansion involves major investment in production of the means of production, in what Lonergan calls *surplus* goods and services. Surplus goods and services are not desired for their own sake but are produced because their use can accelerate future production. "Capital is capital because its utility lies not in itself but in the acceleration it imparts to the stream of useful things."[4] Insofar as there occurs an increase in the rate of production of surplus goods and services, there is facilitated a *subsequent* increase in the rate of production of goods and services that enter directly into a community's standard of living (which Lonergan terms *basic* goods and services). Ideally executed, economic history becomes not a sequence of boom and busts, but a successive sequence of surplus and basic expansions, through which humanity's standard of living mounts to successively higher plateaus. Hence the purpose of capital formation and surplus expansion is to set conditions necessary for a subsequent basic expansion.

Fourth, concrete economic conditions constitute a very significant component of the total existential context in which human persons and communities live out their lives in the world.

[3] Bernard Lonergan, *Insight: A Study of Human Understanding*, Collected Works of Bernard Lonergan, vol. 3, ed. Frederick E. Crowe and Robert M. Doran (Toronto: Toronto University Press, 1992), 239.
[4] Lonergan, *Insight*, 235.

Economy is no less a part of one's total concrete context than is local geography, climate, regional architecture, cuisine, level of technological advancement, political institutions, and so on. Our economic routines, relations, and conditions shape who we are, and who we might possibly become. "Economic activity provides the material substratum for the cultural creations of human ingenuity and aspiration."[5] Furthermore, our involvements within a particular economic good of order insinuate us into that order, "directly and explicitly or indirectly and implicitly."[6] Hence an economy must be appreciated not merely as a "terminal value," but also as an "originating value" that "modifies our habitual willingness, our effective orientation in the universe, and so our contribution to the dialectical process of progress or decline."[7] Not least, participation in a dysfunctional economy typically ramifies to affect other goods of order on non-economic levels. It hinders actualization of values on social, political, cultural, personal, or even religious levels. Even cursory reflection upon the existential consequences of historical episodes of poverty, unemployment, or financial collapse readily shows this to be the case.

Fifthly, Lonergan recognized that flawed economic theory and practice relentlessly undermine conditions for freedom and democracy. Sound economic theory and practice are necessary for their preservation. Lonergan's own efforts in economics could be appreciated as a response to Keynes' observation that ". . . the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be

[5] Lonergan, *Macroeconomic Dynamics*, xxxi.
[6] Lonergan, *Insight*, 624.
[7] Lonergan, *Insight*, 624. Lonergan recognized that the notion of value encompasses not merely what is chosen (i.e. terminal values) but also the persons who perform acts of choosing. So by "originating value" is meant "authentic persons achieving self-transcendence by their good choices." Bernard LONERGAN, *Method in Theology* (New York, NY: Herder and Herder, 1972; reprint ed., Minneapolis, MN: Winston Press, 1979), 51.

quite exempt from any intellectual influences, are usually the slaves of some defunct economist."[8]

At the time Lonergan was working out his own theory in the 1930's and early 40's those on the left were asserting that capitalism at its root was shot through with internal contradictions that would inevitably lead to its demise. Those on the right were deeply puzzled by the failure of the depression economy to reach equilibrium on its own, given their view that markets are self-correcting mechanisms. Species of both views persist to this day and each in its own way can undermine economic freedoms and meaningful democracy. Lonergan's theoretic account of an economic "pure cycle," clarifies how neither position is adequate. Capitalist exchange economies are not fated theoretically to inevitable catastrophic breakdown, but neither are they entirely self-correcting over the long-term. The purpose of economic theorizing, on Lonergan's account, is to specify conditions for the optimal and sustainable functioning of modern exchange economies, in a thoroughly democratic context. This is especially challenging given that preservation of those conditions require widespread intelligent and responsible guidance over economic rhythms that in fact happen not to be dynamically stable over long durations.

Having oriented ourselves by this broader teleological consideration of the various purposes of economic activity (and of the need to adequately understand it theoretically) we turn now to some of the main components of Lonergan's macroeconomic theory.

Innovation as the Source of Long-term Economic Growth

Innovation requires the occurrence and implementation of practical common sense insights. Cognitionally, this is what innovation essentially is. Civilization expands and improves

[8] John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (Prometheus Books: New York, 1997), 383.

only by the accumulation and effective implementation of such insights. Common sense understanding perhaps initially became manifest in technological and economic activity. "At first, there appears little to differentiate man from the beasts, for in primitive fruit-gathering cultures, hunger is linked to eating by a simple sequence of bodily movements. But primitive hunters take time out from hunting to make spears, and primitive fishers take time out from fishing to make nets."[9] Spearmaking and netmaking are instances of practical intelligence, indeed of technological innovation and capital formation. The making and subsequent using of spears and nets generates and sustains a more amenable set of living conditions—some combination of more food, more leisure, and/or more people who can be fed. This possibility did not exist before the arrival of the spears and nets. By insights, creativity, and action at the economic level human beings come to set the conditions under which they live. Economic activity effects a transformation of the potentialities of nature (e.g., wood, metal, plant fibers) into a standard of living (e.g., nutritious food).[10]

This wheel of historical progress did not rest content with simple spears and nets. Ongoing insights into the limitations of the productive process have yielded ever further technological innovations, which in turn have evoked ever further expansions of capital. "As inventions accumulated, they set problems calling forth more inventions. The new inventions complement the old only to suggest further improvements, to reveal fresh possibilities, and eventually to call forth in turn the succession of mechanical and technological higher viewpoints that mark epochs in man's material progress."[11]

[9] Lonergan, *Insight*, 233.
[10] Lonergan, *Macroeconomic Dynamics*, 19-20.
[11] Lonergan, *Insight*, 233.

Two Distinct Kinds of Production

Central to Lonergan's understanding of economic process was his differentiation of two distinct kind of production, which he termed "basic" and "surplus." Any economy beyond an extremely primitive subsistence stage is constituted not by a single circuit of production, but by two interrelated circuits. One circuit produces a flow of "basic" goods and services which, at final sale, leave the productive process to enter into a community's standard of living. The other circuit produces "surplus" goods and services. These, after being sold, do not enter into a standard of living, but rather remain in the productive process by being *utilized* within that process. Surplus goods are the means of production, and as such function in a manner that *accelerates* the production of all other goods and services (whether basic or surplus).

Some examples of basic and surplus products would be helpful. A sandwich, a sweater, or a ski chalet would be instances of basic goods; these are desirable as directly contributing to someone's standard of living in some more or less obvious manner. On the other hand, a grain combine, an industrial power loom, or a saw mill, are all surplus goods (even if these are *used* in the basic circuit, for basic production – as would be the case in the production of the sandwich, the sweater, or the ski chalet). Surplus goods do not directly enter into anyone's standard of living, but are desired instrumentally, as making production more efficient.

Lonergan's familiar distinction in ethics between "particular goods" and the "good of order" might help us better understand the basic-surplus distinction he seeks to introduce to economics. Basic goods and services are particular goods, whereas surplus goods and services are employed within an economic good of order. While particular goods are objects of desire sought as such by individuals, a good of order is a concrete intelligible scheme of recurrence that conditions a recurrent flow of particular goods for many individuals over time. "My dinner

today is for me an instance of the particular good. But dinner every day for all members of the group that earn it is a part of the good of order."[12] As the emergence and recurrence of particular goods are conditioned by a good of order, so too the recurrent flow of basic goods and services in any economy is conditioned by an infrastructure of surplus goods and services required for their efficient production.

Lonergan's differentiation of basic and surplus production was for the sake of thinking out as fully as possible the *dynamic* relation between these two circuits. He was especially interested in the propitious shifts that occur during and after implementation of innovations in surplus production.[13] Prior to the invention of the spear, for example, one imagines our progenitors hunting game considerably less effectively, perhaps with clubs. Prior to the fishing net, one imagines the catch being limited to one fish at a time. The widespread introduction of the spear or the net surely allowed for a better-fed, and perhaps somewhat larger, population. But these innovations required more than merely the occurrence of insight. If spears were to be made, someone had to be released from the hunt to make and repair them. If nets were to be tied and mended, someone had to be released from the daily task of fishing. Alternatively (and more likely) those who initially hunted or fished used what had previously been their own leisure time for spearmaking or netmaking. But the relevant insights are more likely to occur for us if we image some wild-eyed fisherman proposing to his mates: "I'm just not getting on the raft today. I've got this really great idea—but I need to stay on the beach and play with string for a few

[12] Lonergan, *Method in Theology*, 49.

[13] It is important take whatever time is necessary to attain the required insights on this front. Our time is limited, and our pace hurried. As a remedy, I recommend two somewhat beautiful articles by Michael Shute. Each article offers a slow and patient analysis of a humble instance of surplus innovation, the first of the basket, the second of a simple fishing weir. See Michael Shute, "Two Fundamental Notions of Economic Science," *Lonergan Review*, 2010, Vol. 2, no. 1; 95-106 and Michael Shute, "Real Economic Variables," *Divyadaan: Journal of Philosophy & Education*, 2010, Vol. 21, no. 2; 184-94.

months. We'll get more fish this way. Trust me. Oh, and could you bring me a few fish every evening when you get back? My family and I will be hungry. O.k.?"

Making spears and nets required some up-front investment of time and effort. Materials for their fashioning had to be obtained, perhaps with considerable difficulty. It required the cultivation of new skills. Most importantly, the people implementing these innovations needed to be understood, believed, and supported in their efforts.[14] It is important to remember that those excused from hunting and fishing, to perform their odd tasks, did not themselves immediately contribute any additional meat. Yet they still had to be fed in the interim. It is only indirectly, and after a time delay, that their extraneous efforts made any contribution in terms of increased meat production. And it is only for the sake of that eventual contribution that their truancy from the immediate and more obviously practical task of hunting and fishing was tolerated.

Lonergan articulates the distinctiveness of surplus production in the following terms: "Neither spears nor nets in themselves are objects of desire. Still, with notable ingenuity and effort they are fashioned, because for practical intelligence desires are recurrent, labor is recurrent, and the comparatively brief time spent making spears or nets is amply compensated by the greater ease with which more game or fish is taken on an indefinite series of occasions."[15] What is desired as a particular good is meat. Spears and nets are sought not for their own sake, but as part of an economic good of order, because their use can increase the flow of meat over time. To generalize then, surplus production and capital formation in an economy occur not because of any intrinsic desirability of capital *per se*, but because it serves to "expedite and

[14] Phil McShane has suggested this to be the original meaning of the term "credit."
[15] Lonergan, *Insight*, 233.

accelerate the process of supplying the goods and services that are wanted by consumers."[16] The relation of surplus to basic production is that of accelerator to accelerated. And no production is for its own sake, but ultimately for the sake of a better standard of living, preferably for all.

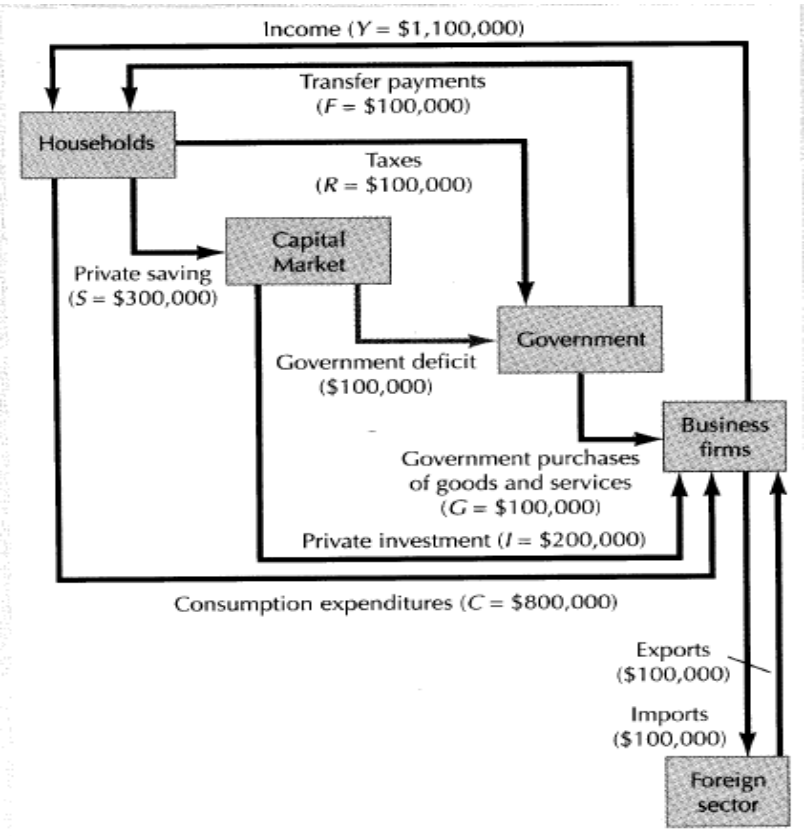
Lonergan's Diagram of Rates of Flow

This insight into the distinction of two kinds of production, one of which conditions and accelerates the other, is significant enough that it should render obsolescent our tendency to view the economy as some kind of one-dimensional mechanism. Lonergan's surplus-basic distinction is a grasp of fundamental conditionality in the productive process. It suggests that economic understanding must become similar to ecological understanding. An economy has parts which are related to other parts such that the sustainable functioning of the whole depends upon the ongoing mutual conditioning of all the parts.[17] The primary task of economics is to properly identify the parts, (i.e., the fundamental explanatory variables), the relations that obtain between these parts, and the full range of ways that these parts dynamically condition the functioning of each other and the whole.

When introducing something new it is often helpful to do so by way of contrast to something familiar. The diagram below (on your handout) is a fairly standard "circular flow diagram" of the sort that can be found in almost every macroeconomics text book.[18] Such

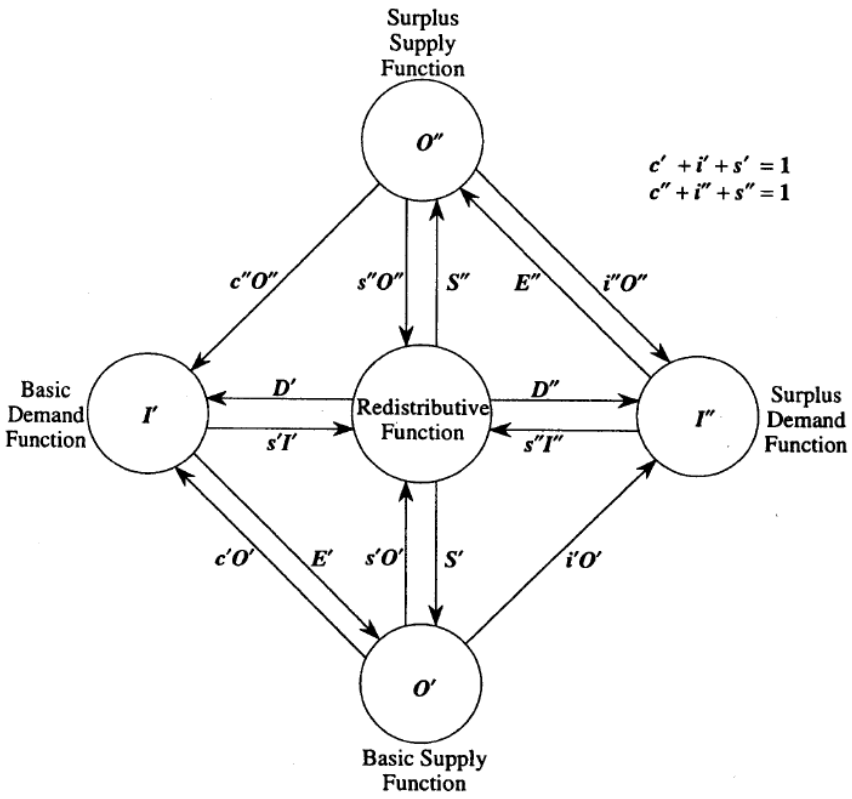
[16] Lonergan, *Insight*, 233.
[17] The financial crisis of 2008 suddenly brought to consciousness the ecological nature of finance and economics, which is foundational to any understanding of systemic risk. If bankers come to doubt the solvency of other banks, interbank lending ceases to function. As bank lending drops off, credit markets no longer have the liquidity they need to match sellers of credit with buyers, and these markets "freeze up." Companies that depend on credit suddenly find they are unable to finance capital expenditures, or even meet short-term operational needs. New hiring is curtailed; workers are laid off; hours and benefits are cut. Fearful consumers decrease spending. The government responds by sending out unemployment checks, engaging in deficit spending, bailing out key enterprises. The Federal Reserve lowers interest rates, increases the money supply, absorbs toxic assets, attempts to reinstate confidence. And so forth…
[18] Photocopy of Robert J. Gordon, *Macroeconomics,* 10th edition (Boston: Addison Wesley, 2006), 33.

diagrams purport to identify the main parts of an economy and their relations. They are used as a core heuristic in standard macroeconomic analysis. The flows within this diagram give rise to economic statistics (such as GDP) that are considered to be of great importance, and are used to inform all manner of policy decisions.



I would like to introduce Lonergan's "Diagram of Rates of Flow" (the second diagram on your handout, from *Essay in Circulation Analysis*) by way of contrast to standard circular flow diagrams.[19]

[19] Photocopy of Bernard Lonergan, *Macroeconomic Dynamics: An Essay in Circulation Analysis*, Collected Works of Bernard Lonergan, vol. 15, ed. Frederick G. Lawrence, Patrick H. Byrne, and Charles C. Hefling, Jr. (Toronto: Toronto University Press, 1999), 55.



In circulation analysis the parts of the economy are not specified descriptively as familiar "households" or "business firms" but rather as *functions*: Basic Demand Function (I'), Basic Supply Function (O'), Surplus Demand Function (I"), and Surplus Demand Function (O"). The diagram intends to capture all operative monetary flows that occur in the productive process over successive intervals of time, even if the economy is dynamically expanding.

Basic Demand Function (I') represents the aggregate of rates of basic income. Basic income is money available in a given interval for the purchase of goods and services that will, when purchased, exit the productive process and enter into someone's standard of living (for example: Lakefront Brewery Beer, Artistique Handmade Wood-turned Cremation Urns, or Harley Davidson Motorcycles – to use three local Milwaukee examples). Basic Supply Function (O') is the aggregate of rates of outlay for the production of those basic goods and services.

Notice that a portion of this outlay, c'O', returns back to Basic Demand Function (I'), typically in the form of wages workers receive for their contribution to basic production. But firms engaged in basic production must also maintain their equipment, and improve or increase their productive capacity. That constitutes a distinct outlay, i'O', which moves to I". I" is Surplus Demand Function, and represents the aggregate of rates of surplus income. Surplus income is money allocated for eventual expenditure on goods and services that will be *used within the productive process* (returning to Lakefront Brewery, for example: stainless steel fermentation tanks, sheet metal welders used make these tanks, machine tools used to make the welders, CAD software used to design machine tools).[20] When funds set aside and held in reserve for this purpose (in I") are eventually spent, this expenditure, E", moves to O". O" is Surplus Supply Function and represents the aggregate of rates of outlay for the production of surplus goods and services. Notice that firms producing surplus goods and services also have two distinct types of outlay. They too must pay their workers (with perhaps the majority flowing along c"O"), and maintain, improve, or increase their own productive capacity (i"O").[21] As a whole, Lonergan's diagram indicates the relations that obtain between these functions. Arrows point in the direction of monetary flow, and we may imagine goods and services flowing back in the oppose direction to these operative payments.

[20] Notice that as surplus goods are needed to produce other surplus goods, there can be levels of surplus production. The welder is needed to make the fermentation tank, machine tools are needed to make the welder, and software is needed to make the machine tools.

[21] The diagram suggests that *wages* outlayed for basic production flow to Basic Demand (I') *via* c'O' and that wages outlayed for surplus production flow to I' *via* c"O". While perhaps this is true of the majority of wages, we must make the qualification that wages only flow to Basic Demand (I') if they are to be allocated to basic expenditure during the interval being employed in the analysis. Wages in excess of what will be expended upon basis goods and services can tend to flow into the surplus circuit via the Redistributive Function. Hence high wages can be a source of pure surplus income. "Pure surplus income… is the remainder of income that is not spent at the basic final market either directly by its recipient or equivalently through the action of others spending more than they earn" (Lonergan, *Macroeconomic Dynamics,* 153). So it is important to realize that not all wages flow to Basic Demand Function, and that pure surplus income will function differently than basic income. Pure surplus income is needed during surplus expansions, but detrimental to basic expansions.

The economy as a whole is comprised not of one circuit, but rather of two distinct circuits, basic and surplus. Lonergan argued that this differentiation of circuits is extremely important theoretically. What went under the rubric simply of "business firms" in the standard circular flow diagram, becomes functionally differentiated in Lonergan's circulation analysis into three distinct monetary rates, O', I", and O." Firms can supply basic goods and services, demand surplus goods and services, and/or supply surplus goods and services to other firms. This de-simplification or differentiation of "business firms" into three distinct functions goes unexploited in standard macroeconomics. Yet, lacking this differentiation, the dynamic relation between the basic and surplus circuits can not be understood. Insofar as Lonergan is correct in his argument that promoting optimal and sustainable macroeconomic functioning requires the timely fulfillment of dynamically changing conditions with respect to surplus and basic production, expansions, and incomes— the oversight of the surplus-basic distinction proves tremendously costly.[22]

Lonergan's diagram renders apparent a new but heretofore neglected notion of macroeconomic *equilibrium*. Since Adam Smith, economists have employed equilibrium models to explain the price mechanism's alignment of supply and demand (e.g., of commodities, of interest rates, of labor). Lonergan regarded this type of equilibrium as relatively microeconomic. It occurs *within the channels* (in the arrows, as it were) of his own diagram. He sought to clarify a different kind of equilibrium, one that even the totality of equilibria internal to the pricing

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A loaf of bread can only be eaten once. The bread oven however, is used within the basic circuit, for the baking of an *indefinite series* of bread loaves. The machine tools are used within the surplus circuit, for production of an *indefinite series* of ovens. The CAD software is used at a higher level of surplus production, for the production of an *indefinite series* of machine tools.

[22] "The difficulty emerges in. . . the basic expansion. In equity it should be directed to raising the standard of living of the whole society. It does not. And the reason why it does not is not the reason on which simple-minded moralists insist. They blame greed. But the prime cause is ignorance. The dynamics of surplus and basic production, surplus and basic expansions, surplus and basic incomes are not understood, not formulated, not taught" (Lonergan, *Macroeconomic Dynamics*, 82).

mechanism can not bring about.[23] The surplus and basic circuits, though distinct, are *interdependent* insofar as they are linked by two "crossovers." These can be seen on the diagram. Outlays from firms in Basic Supply Function (O'), for maintenance and replacement of existing equipment or for expansion of their own productive capacity, flow along arrow i'O'. These funds depart from the basic circuit, and enter into the surplus circuit, specifically into Surplus Demand Function, I". Coming down the other crossover, c"O", are outlays by firms engaged in Surplus Supply, mainly as wages paid to their workers. These funds become available for basic demand, as they depart from the surplus circuit and enter into the basic circuit.

Given these crossover channels (and also various routes through Redistributive Function), there is the possibility, if there were a sustained imbalance, that the surplus circuit could "drain" the basic circuit, or vice versa. The former case would result in an economy with impressive productive capacity, but insufficient numbers of consumers who could afford to buy what is produced in sufficient quantities at the going prices. We would have the problem that Keynes called insufficient effective demand. The latter case, on the other hand, would result in a short-term consumption binge, but at the expense of infrastructure and capital investments necessary for sustaining productive capacity and implementation of new productive innovations. Lonergan clarified how there were appropriate times to deliberately tilt an economy either toward surplus or basic expansion. He also clarified the dangers and challenges involved during each kind of expansion. He warned of the need for a dynamic long-term equilibrium of the two circuits, lest one circuit drain the other. He offered an analysis explaining how economic

[23] "…from a macroeconomic viewpoint…. equilibrium is conceived, not in terms of every case of supply being balanced by an equal demand, but in terms of balancing cash flows that continue to balance" (Lonergan, *Macroeconomic Dynamics*, 77).

depressions result from the disregard of this larger equilibrium. (Obviously the conventional circular flow diagram leaves us very much in the dark about all of this.)

A final contrast concerns the role of *finance*. The circular flow diagram does little to help us understand how finance and economics are to be distinguished and related. For Lonergan, what is essential to an economy, and hence what is to be understood by the science of economics as such, is the productive process. Hence his analysis sought to differentiate sharply the essential components of the productive process from finance. Lonergan sought to differentiate economics and finance for the sake of understanding how they are functionally related. For Lonergan, the purpose of finance is precisely to facilitate the productive process. Finance is a means to an economic end. So our final observation is that "Capital Markets," "Government," and "Foreign Sector," in the circular flow diagram are combined in Lonergan's circulation analysis into a single "Redistributive Function." Vertical and horizontal arrows moving to and from Redistributive Function represent net transfers to and from Redistributive Function (e.g., net savings and lending, net taxation and transfer payments) with respect to each of the four monetary functions. (International trade is analyzed by flows through the redistributive function of the domestic economy connecting with the redistributive function of its trading partners.) Lonergan's simplification is justified by the rather remarkable assertion there exists a kind of functional equivalence of these institutions with respect to their relation to the productive process itself. Savings and lending, government spending and taxation, transferences of titles of property ownership, importing and exporting, do indeed interact with I', O', I", and O" (by arrows coming to and from redistributive function), but these are redistributive rather than operative transactions, and are not constitutive of the productive process as such. Such an analysis attempts to understand finance functionally, with respect to its contribution to the productive

process. By its very structure it implicitly cautions against the notion that lasting prosperity can be generated by financial alchemy, by monetary schemes that seemingly operate independent of the productive process.

Surplus Expansions

The surplus circuit of an economy is important because within it occurs the production of the means of production. Innovation in surplus production eventually facilitates a more efficient and sufficient production of basic goods and services, and thereby a rising standard of living. We grasped this in our simple reflection upon the invention of the spear or the fishing net. The most significant of such expansions have come about in the modern period, due to the implementation of major organizational and technological innovations. Economic historians have suggested that there have occurred not just a single Industrial Revolution, but rather a series of such revolutions, and they have correlated waves of economic development to this sequence of technical innovations.

The period from 1780 to 1848 was characterized by the water-powered mechanization of industry; its transportation and communication infrastructure by canals, turnpike roads, and sailing ships. The proliferation of steam-power, roughly from 1848 to 1895, allowed for a new and more powerful mechanization of industry and transport. This period saw the construction of steam ships, railways, and the telegraph. Electrification of industry, transport, and the home proliferated from 1895 to 1940, and allowed for such conveniences as running water, indoor toilets, and telephones. A chemical revolution allowed for large-scale refinement of gas and oil, for the motorization of the transport system (e.g., for automobiles and airplanes), for the fabrication of plastics and other synthetic materials. And since the 1960's, we have been

working and living through an era of computerization, high-speed telecommunications, and global information networks.[24]

While technologically it might be said that we have come a long way, from the fishing net to the internet, the fundamental principle of innovation and development remains the same. An economic surplus circuit expands as people come to reflect upon the limited effectiveness of currently existing productive processes. To the extent that questions are raised concerning possible improvements, there tend to occur insights into how production might be improved. Insofar as those who have ideas for practical improvements are given time, resources, and financial support, new innovations come to be grafted into the productive process. The applicability of such innovations ramify in unpredictable ways, and from time to time can in retrospect be appreciated as having placed the whole edifice on an entirely new basis.

Lonergan sought to understand not merely the technological basis for surplus expansion but also the financial conditions that must be initiated and maintained for innovation to be optimally implemented. A major expansion of the means of production is not something that can happen if all available monies are absorbed by consumption of basic goods and services. A surplus expansion requires a partial deferral of current consumption, and an increasing rate of aggregate savings that allows for new fixed capital investment. "A surplus expansion calls for saving, and a massive surplus expansion calls for massive savings."[25] If there is to occur an

[24] Chris Freeman and Francisco Louca, *As Time Goes By: From the Industrial Revolution to the Information Revolution* (Oxford: Oxford University Press, 2001), 139-335. In discussions of sequences of technological innovations, economic historians do not typically make enough of the distinction between innovations impacting production, and innovations in basic goods *per se* (e.g. electricity as used in the factory vs. electricity used for domestic lighting)—although they are certainly not unaware of this distinction. Having made central to his analysis the surplus-basic distinction, Lonergan is especially interested in the former kind of innovation, i.e., in those that facilitate the process of production.

[25] Lonergan, *Macroeconomic Dynamics*, 135.

acceleration of the surplus circuit, this requires not merely a high rate of savings, but a series of ever higher rates, from interval to interval.[26]

To get the insight here it may be helpful to return to our example of the fisherman. His proposal to *not* go out fishing, but rather to stay on the beach to engage in net "research and development" as it were, is a proposal that, for some period of time, would require some combination of more overall work for himself and others, yet fewer fish to eat for all. The nets that may *eventually* come to catch more fish, and/or reduce time spent fishing, can be used only *after* they have been conceived and manufactured.

To generalize, the benefits of surplus expansions, i.e., of their coming to fruition in the bounty of increased *basic* production, come to pass only after a time lag. Lonergan gives the example of Robinson Crusoe, clearing a field for cultivation. "When Robinson is clearing a new field, he is incapable of the illusion that that activity enables him to have more to eat here and now."[27] This time lag can be lengthy indeed: "Similarly, the industrial revolution of the nineteenth century transformed the means of production; the demand for labor was almost continuously strong; but only in the last quarter of the century did standard of living begin to rise generally."[28] Periods of surplus expansion can become the occasion for the outsized success of certain talented, ambitious, and fortunate individuals who happen to be advantageously situated

[26] How can such savings be achieved? If a surplus expansion is to occur there must occur a channeling of money from basic income (I') to surplus income (I"). But what is conducive to that? How could there occur a shift away from basic consumption, to investment in surplus production? Lonergan straightforwardly admits that the condition most conducive to such a shift is inherently anti-egalitarian. "The surplus expansion is anti-egalitarian, inasmuch as that expansion postulates that increments in income go to high incomes" (Lonergan, *Macroeconomic Dynamics*, 135). "The simplest way to obtain great savings, and so promote a surplus expansion, is to increase the income of the rich, who can hardly spend more on their standard of living" (Lonergan, *Macroeconomic Dynamics*, 119).
[27] Bernard Lonergan, *For a New Political Economy*, Collected Works of Bernard Lonergan, vol. 21, ed. Philip J. McShane (Toronto: Toronto University Press, 1998), 151.
[28] Lonergan, *For a New Political Economy*, 24. The extraordinary delay in this instance was extended unnaturally by the attempt on the part of the British to maintain a favorable balance of trade vis-à-vis their colonies. A similar deferral of internal basic expansion may be occurring today in the case of China, and perhaps other major exporters.

with respect to the entrepreneurial process and surging financial inflows. Typically however these periods are somewhat hard on most ordinary people. They tend to be times of increased labor, increased saving, deferred consumption, and inflation. Yet surplus expansion is undergone for the sake of a subsequent basic expansion. Improvement of the surplus circuit should, after a time lag, eventually *accelerate* the flow of production in the basic circuit. Indeed this is ultimately the purpose, and the moral justification, for surplus expansion. Ultimately surplus expansion is for the sake of a future higher standard of living, characterized not least by greater leisure and wider cultural opportunities for everyone.

The Problem of Transitioning to a Basic Expansion

The eventual transition to a basic expansion does not occur automatically. Indeed one of the most significant contributions Lonergan makes to economics is his analysis of the difficulty of navigating this transition. Surplus expansions routinely tend to be forced beyond their limits, thereby subverting the conditions necessary for the emergence of a basic expansion. Rather than slowly ramping down the surplus expansion when it has run its course, rather than shifting employment from surplus to basic production, rather than setting those financial conditions that would allow a basic expansion to come to fruition, misguided efforts to perpetuate the profits and pace of the boom perversely choke off an incipient basic expansion.

Financially, surplus expansions are initially impelled by an increasing flow of lending and investment, which is directed to Surplus Supply Function, O". Insofar as the technical innovations funded by these flows are genuinely productive, marginal returns on these initial investments tend to be quite high. Confidence is bolstered. Further capital investment is encouraged. More workers are hired. Facilities and organizations are expanded. Additional lending, and the incurring of additional debt, is considered prudent. But at some point marginal

returns on investment inevitably tend to diminish, simply as a consequence of the technical innovation coming to saturate its field of reasonable applicability. The first fishing net, for example, is used in a spot known by previous spear fishers to be a prime location. But the *tenth* net made might have considerable trouble finding fish. The routes for the initial railroads were quite sensible, and highly productive. But the end of the railroad boom saw the construction of new lines to destinations that made little sense. The expansion of the fiber optic cable network in the 1990's constituted a real improvement in the communications infrastructure, but the extent of that expansion was overdone.

Major surplus expansion is actually more complex than these single-industry examples indicate. Significant innovation in one industry tends to have equally significant applications and ramifications for other industries, and a chain of innovation can ripple out to permeate and transform an entire economy. But even a complex wave of multi-industry innovation, such as we have witnessed in the computer revolution, will eventually be susceptible to the principle of diminishing returns. [29]

While declining profits and falling prices *ought to be* anticipated as a surplus expansion wanes, and ought to signal the need for deliberate transition to a basic expansion, in the absence of any prior distinction between surplus and basic circuits (let alone surplus and basic expansions), such a "slow down" tends to be resisted as something unequivocally bad. Business

[29] Lonergan himself did not emphasize decreasing marginal returns as an explanation for the limit of surplus expansion (although I suspect he may simply have presupposed this). He offered a more purely analytical explanation: Expansion of the productive capacity of an economy will eventually require ever increasing expenditures simply for maintenance and replacement of that capacity. The component of surplus income that must be allocated to maintenance and replacement can not also be allocated to new fixed capital investment, i.e., to further expansion of surplus capacity. Hence the additional maintenance and replacement requirements incurred by a lengthy surplus expansion function as a drag upon further expansion. At the limit, all available surplus income would need to be expended simply to maintain the existing expanded surplus capacity. The two explanations are certainly compatible, and both are surely operative.

persons routinely interpret declining profits and falling prices merely as a sign of low demand.[30] Alarmed by these signals, firms begin to engage in defensive maneuvers. They lay off workers. They cut production. Banks restrict lending. Consumers reduce spending. The self-preservational instincts that encourage individuals and firms to make such micro-level decisions perversely only serve to perpetuate the macroeconomic conditions that everyone is hoping to escape. These defensive maneuvers make the economy worse overall.[31] In a depression, those firms in a favorable position to retain a portion of the ever-diminishing flow of pure surplus income do so only by exacting "a rate of losses" out of the hides of more vulnerable firms, and a long chain of otherwise healthy firms are forced into bankruptcy or liquidation. The workers of those firms join the ranks of the unemployed. In the end, the sacrifice, savings, hard work, and aspirations of millions are laid to waste. The surplus expansion has been for naught.

The Economic Pure Cycle – Holy Grail of Macroeconomics [32]

Although surplus expansions must inevitably come to an end, Lonergan argued that this ending need not precipitate an economic slump. The familiar recessions and depressions of the

[30] On Lonergan's theory, falling profitability of in surplus industrial sectors may be a sign of circuit disequilibrium. The surplus circuit will tend to drain the basic circuit during periods of surplus expansion. This could be empirically verified by an examination of economic data categorized in terms of the functions constitutive of Circulation Analysis. If it were determined that such a disequilibrium existed, economic vitality could be restored by channeling money into the basic circuit. This remedy is simply not available however, in the absence of Lonergan's surplus-basic distinction.

[31] In resistance to "economic weakness" (itself a diagnosis undifferentiated with respect to Lonergan's surplus-basic distinction) governments attempt to "stimulate demand" by engaging in deficit spending. Surplus expansion can also sometimes be prolonged by vigorous exporting, which results in a favorable balance of trade. Lonergan offered an analysis of both of these "palliatives," and argued that they only postpone and exacerbate the eventual crisis. See Lonergan, *Macroeconomic Dynamics,* 162-76.

[32] I borrow this intentionally ostentatious title from the widely respected economist Richard C. Koo, whose book *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession* convincingly explicates the dynamics of "balance-sheet recessions," and accounts for Japan's economic woes as can no other theory. While Koo's work is indeed very significant, and indeed worthy of his own title, his diagnosis of the macroeconomic problem is actually merely a symptom relative to the more generalized diagnosis that Lonergan provides under the rubric of failure to transition to basic expansion. That being said, I believe Koo's work is complementary to Lonergan's, and that circulation analysis could be rendered more sophisticated if it were supplemented by balance-sheet registers of the sort that Koo suggests are necessary.

trade cycle can be avoided. Slumps will occur however, if this transition period subsequent to surplus expansion is not illuminated by adequate macroeconomic theory, and navigated by commensurate practice. Lonergan attempted to clarify the normative conditions for an ideal but nevertheless practicable economic cycle, "a pure cycle or wave that has no necessary implications of negative acceleration. A pure cycle of the productive process is a matter, simply, of the surplus stage accelerating more rapidly than the basic, then of the basic stage accelerating more rapidly than the surplus."[33]

What would an economic pure cycle require? What conditions would be necessary to successfully transition from surplus to basic expansion? The recently consummated surplus expansion has implemented productive innovations and thereby optimized the productive potential of the economy, including that of the basic circuit. Having run its course, surplus production should taper off to a level that sustains maintenance and replacements at the now higher level of production that has just been achieved. Given that there is to be a reduction in new fixed capital investment however, and consequently a contraction *of the surplus circuit*, the only way a negative acceleration can be avoided in the economy as a whole is if there occurs a compensatory positive acceleration in the basic circuit, an expansion of production directly for the sake of the standard of living. This expansion of the basic circuit would make full use of the newly increased productive capacity installed by the recent successfully completed surplus expansion. It would require, not mass layoffs, but rather a shifting of employment from surplus to basic industrial sectors. As basic income (I') would increase, expenditures for basic goods and services could sustain the economy, while now at last also allowing for the enjoyment of a

[33] Lonergan, *Macroeconomic Dynamics,* 38.

higher standard of living. *It was for this purpose that the previous surplus expansion was initiated in the first place!*

But how is increased basic consumption and production possible? Lonergan specified the necessary monetary conditions that would have to be fulfilled to avoid contraction subsequent to the surplus expansion. The main requirement is that there occur an adjustment in the aggregate rate of savings. This "adjustment" is not a simple matter. The surplus expansion, over a long period of time, had channeled an ever increasing rate of savings into the surplus circuit. If the basic expansion is to occur, there must now be effected and sustained an opposite flow, from the surplus circuit into the basic circuit. The only way there can occur an acceleration of the basic circuit however, is if there occurs an acceleration of the rate of basic demand, I', that allows an expanded basic production to clear the basic final market. Lonergan argued that this condition could be effected by a *decline* in the savings rate. Monetary flows which during the surplus expansion had previously been diverted to the surplus circuit *via* savings, could now (at the initiation of a basic expansion) be contained within the basic circuit by a progressive reduction of the previous high rate of savings.

Net positive flows from the surplus to the basic circuit face considerable resistance. Given constant money supply in the basic circuit with respect to the redistributive function (D' + S' = 0), and also given balanced net savings and lending with respect to the redistributive function (s'I' + s'O' = 0), the basic circuit would nevertheless be liable to a "draining" from: 1) decreased wages coming into basic demand, I', from surplus supply, O", along the crossover c"O", 2) increased maintenance and replacement requirements in the basic circuit itself, requiring monetary departure from the basic circuit *via* the crossover i'O', and 3) *perhaps most significantly*, the persistence of relatively "invulnerable" sources of pure surplus income.

Pure surplus income is the fraction of total surplus income directed to new fixed investment, rather than to maintenance and replacement of existing productive capacity. While maintenance and replacement expenditures are necessary to sustain current levels of basic production (even during a basic expansion), pure surplus income, by definition, is neither for maintenance and replacements, nor expended on basic consumption. Lonergan describes some sources of pure surplus income:

> Today, with increasing specialization of function, pure surplus income is distributed in a variety of ways: it enters into [the] very high salaries of general managers and top-flight executives, into the combined fees of directors when together these reach a high figure, into the undistributed profits of industry, into the secret reserves of banks, into the accumulated royalties, rents, interest receipts, fees, or dividends of anyone who receives a higher income than he intends to spend at the basic final market.[34]

Pure surplus income can not support the basic expansion because, by definition, it is not spent in the basic final market. As channeling money away from basic income, I', the persistence of these flows are detrimental to the basic expansion. Pure surplus income is channeled to surplus demand function, either directly, or through the mediation of the redistributive function.[35] While the exigencies of an economic pure cycle would normatively require pure surplus income to taper off to zero during the transition to a basic expansion, the persistence of sources of pure

[34] Lonergan, *Macroeconomic Dynamics,* 153.

[35] Lonergan suggests that pure surplus income, at least that generated by owners operating in basic supply function, departs the basic circuit *via* the crossover i'O': "there are large salaries and large profits to be had, at least at times, by contributors to the standard of living, and so there can be some fraction, say i' of O', that heads to the surplus demand function" (Lonergan, *Macroeconomic Dynamics,* 49). Lonergan acknowledges it is also possible that money depart the basic circuit through the redistributive function. But in this case he suggests that flow will also eventually be channeled to surplus demand function. "It is possible to divert pure surplus [income] from the circuits to the redistributional function without causing a negative (D" – s"I") because in the redistributional function there is an organization of promoter, underwriters, brokers, and investors who there mobilize sums of money and move them along (D" – s"I") from the redistributional function to the surplus demand function where they are spent as new fixed investment." Lonergan, *Macroeconomic Dynamics,* 147.

surplus income, at this time, tends to drain the basic circuit by channeling income from the basic circuit to surplus demand function, I".[36] This counter-flow subverts the basic expansion.

Lonergan argued that the remedy to this draining of the basic circuit, the long-term solution to the obstinate problem of "insufficient consumer demand," the alternative to a depression, is to effect an "egalitarian shift" of incomes.

> Just as the surplus expansion is anti-egalitarian in tendency, postulating an increasing rate of saving, and attaining this effectively by increasing…the income of those who already spend as much as they care to on basic products, so the basic expansion is egalitarian in tendency; it postulates a continuously decreasing rate of saving, a continuously decreasing proportion of surplus income in total income; and it achieves this result effectively by increasing, in the main, the income of those who have the maximum latent demand for consumer goods and services.[37]

More simply stated: "To decrease the rate of saving, increase the income of the poor."[38] The same theoretic functional justification for the anti-egalitarian shift of incomes during the surplus expansion now requires an *egalitarian* shift during the basic expansion. While during the surplus expansion an egalitarian income distribution would have been incompatible with the requirement of an increasing savings rate and the channeling of an accelerating monetary flow from basic to surplus demand, now—during the basic expansion—the persistence of an anti-egalitarian income distribution is incompatible with a decreasing savings rate and the need to channel an accelerating monetary flow to basic demand.

If this egalitarian shift of incomes fails to occur, the increased productive potential that had been made possible by the surplus expansion will be wasted. A lack of effective basic demand tumbles the economy into a depression which ultimately benefits neither the wealthy nor the poor. An egalitarian shift may indeed eventually be effected by the various welfare

[36] See Lonergan, *Macroeconomic Dynamics,* 144-56.
[37] Lonergan, *Macroeconomic Dynamics,* 139.
[38] Lonergan, *Macroeconomic Dynamics,* 135.

initiatives typically implemented during a depression, but this will be at a lower level; it will not be at the "higher plateau" Lonergan claimed was possible with successful transition to basic expansion.

Conclusion:

Lonergan's circulation analysis is an attempt to understand how an economy functions as a *systematic* conditioned whole. It identifies variables that are *relevant* to the economic process as it *concretely* occurs, variables that are *fundamental* to adequate understanding, variables adequately *differentiated* with respect to distinct basic and surplus circuits. The variables of Lonergan's theory are functions: two demand functions, two supply functions, and a redistributive function. Those functions are *explanatory* rather than descriptive; they include, but do not descriptively denote, such quotidian realities as firms and households, consumers and producers. These functions are *implicitly defined*. The demand functions function by receiving income from the supply functions and making expenditures to the supply functions in exchange for goods and services. The supply functions function by making outlays to produce the goods and services that are exchanged for the expenditures coming from the demand functions. The redistributive function allows for savings and loans to be channeled to and from any of the demand or supply functions as required for the optimal functioning of the whole. The theory is not static but *dynamic*; it does not seek to understand merely one particular productive-monetary situation but rather the entire range of possible productive-monetary situations. The theory is also dynamic in the *genetic* sense; it includes not only ongoing economic change but also economic development. It is *normative* in offering an account of the monetary conditions that would have to be fulfilled if economies are both to meet the productive potential offered up by new innovation and have this accelerated production subsequently be met by effective demand.

Finally, it is *dialectical*; it can account for the failures of economies, for the inefficiency of weak surplus expansions, for the waste of resisted basic expansions. It accounts for the familiar trade cycle with its slumps, and critiques a range of misguided and ineffective palliatives (such as sustained deficit spending or imbalanced trade).

Lonergan's contribution to economics is not theoretical in the pejorative sense however, theoretical under the insinuation of being impractical. Lonergan understood the movement to theory as a withdrawal from practicality *for the sake of a return*. So the purpose of economic theory is not merely to understand, but also to reasonably and responsibly guide policy and practice, and to do so in a manner that averts the tragic outcomes we know to be possible in economic history. Focusing on the problem and the elusive goal of long-run economic flourishing, Lonergan sought to determine what the participants in an economy would need to understand if they were to intelligently make those decisions which would bring about, first, a surplus expansion that implements new innovation capable of accelerating the productive process, and then, a basic expansion that would allow all to enjoy the bounty of the resulting accelerated flow of basic goods and services. The successful negotiation of a complete "pure cycle," in which a surplus expansion is followed by a basic expansion, would be something very different from the boom-to-bust dynamics of our all-too-familiar "trade cycle." It would avoid both the speculative boom, with its *inefficiencies* of productive overcapacity and sudden credit contractions, and the *waste* of the bust, which entails a negative acceleration of production and consumption, and all the self-reinforcing nastiness that goes along with that. A sequence of several pure cycles would not be characterized by a constant steady rate of growth, but rather by a step-like progression of increases in the standard of living. Theoretically there could be "static" periods of very low or no growth. But even in these boring periods, the means of

production would be maintained and replaced as necessary, and basic consumption would be stable and sustained at a high level. New growth would patiently await new innovation worthy of investment. On the whole, *Lonergan's account of the pure cycle specifies the necessary conditions for a maximization of the productive process compatible with sustained effective basic demand.* The successful negotiation of a sequence of pure cycles would be endogenously sustainable over the long run, and would constitute the best possible economic history for any given series of social and technological innovations.