Marx's Law of Capitalist Accumulation Revisited:

Counteracting Tendencies and Internal Dynamics[*]

James G. Devine
Professor of Economics
University Hall, Suite 4200
Loyola Marymount University
One LMU Drive
Los Angeles, CA 90045-2659 USA
office phone: 310/338-2948; FAX: 310/338-1950
e-mail: jdevine@lmu.edu
http://myweb.lmu.edu/jdevine/
July 17, 2005

Trickle-down theory – i.e., the view that in "a well-governed society," competitive capitalist growth leads to a "universal opulence which extends itself to the lowest ranks of the people"[1] – is key to *laissez-faire* economics. These days, this appears as assertions such as the following:

> "Real wages … do not always rise in lockstep with gains in productivity over short spans of time. But over long periods, productivity and real wages tend to rise together." (McConnell and Brue, 2005: 279)[2]

Thus, the labor share of national income is roughly constant over time.[3] In this doctrine, no special effort is needed by governments or labor organizations to make wages rise in this way, except to free up markets. Market forces will provide.

This vision goes against the United States experience during the last 25 years or so, as seen in the second part of Figure 1, showing the ratio of property income to labor

---

[1] Smith (1776: 115).

[2] The latter assertion seems contradicted by their diagram 15.1 on the same page.

[3] This faith is based on historical evidence (e.g., Kuznets' Law), sometimes backed by the assumption of an aggregate Cobb-Douglas production function and perfect competition (cf., e.g., Brems, 1977).

income before income taxes.[4] This trend – also seen in the personal distribution of income – has lead some to reject trickle-down and to develop such ideas as the "Wal-Martization" of the U.S. economy and the "race to the bottom" (downward harmonization of labor standards) on the world level.[5]

Figure 1: Property Income/Labor Income, U.S. 1947 to early 2005
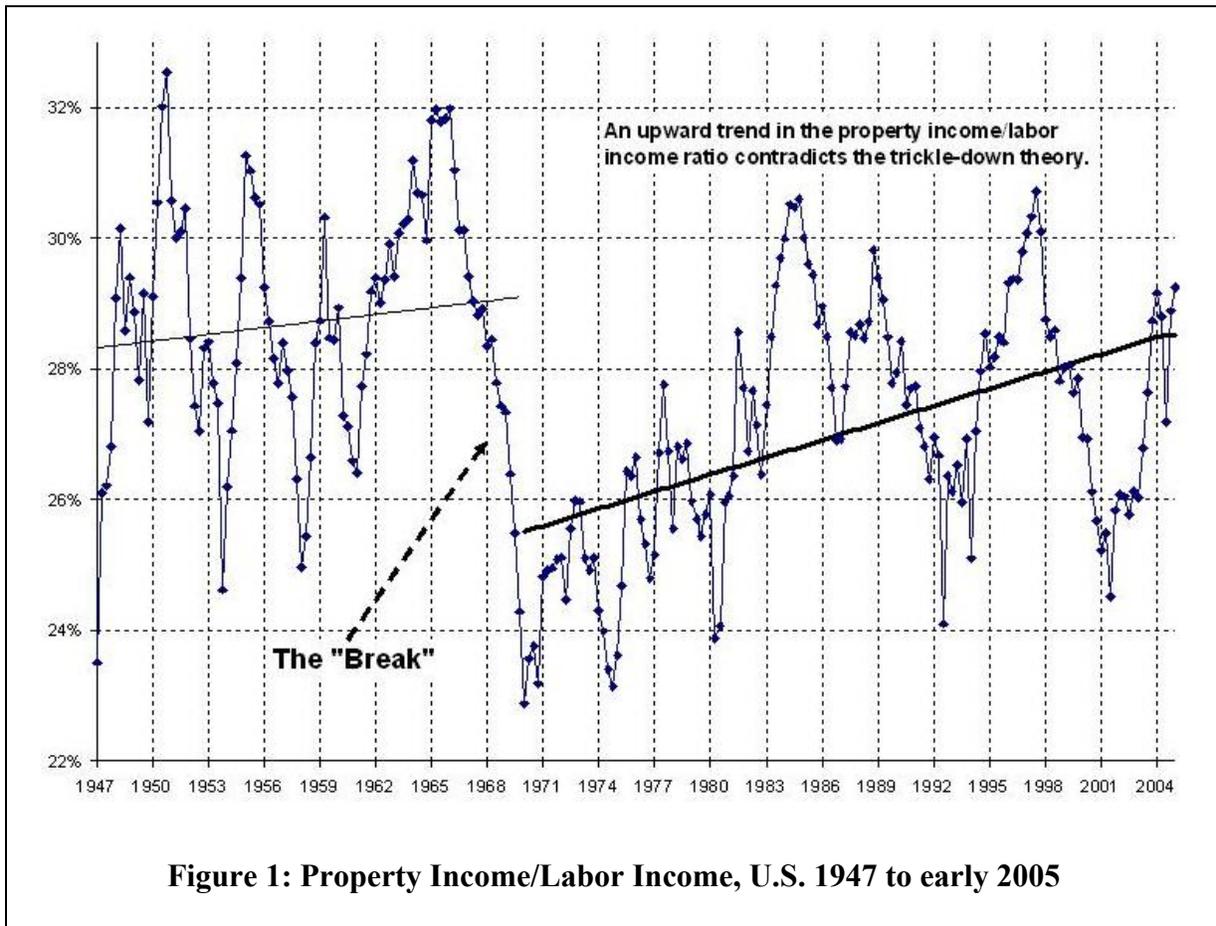
Rather than discussing these theories, this paper aims to understand the limits and logic of one of their earliest avatars, Karl Marx's "absolute general law of capitalist ac-

---

[4] Data are from http://www.bea.doc.gov/bea/dn/nipaweb/index.asp, table 1.12. Both numerator and denominator exclude proprietors' income. The numerator should include (and the denominator should exclude) the salaries of top managers (who most see as capitalists) but does not do so.

[5] This "race" (or creep) also applies to environmental standards, generally ignored in this paper. As with Marx's discussion, issues of patriarchy and ethnicity are not analyzed seriously here.

cumulation" (AGL), using contemporary concepts as applied to the U.S.[6] With luck, those using recent theories can learn from the discussion.

As part of developing this understanding, empirical refutations (e.g., Howard and King, 1975: 132-5; Heilbroner, 1980: 130) play only a small role.[7] As Paul Sweezy emphasized (1970: 19), the empirical validity of Marx's abstract law depends on the concrete (empirical) conditions faced. Similarly, Moseley's (1995) empirical verification of the AGL is premature: data endorsing the tendency may arise from extraneous forces. Thus, the AGL's internal logic must be understood independent of the social environment it encounters.

Return to Figure 1 in order to understand the interaction between the AGL and the environment within it works. The period before 1970 shows an upward trend of the relative property share, as indicated by the light line. Because this trend is small and statistically insignificant, it hardly contradicts the trickle-down prediction.[8] However, violating the premises of trickle-down theory, this period was characterized by neither *laissez faire* nor a union-free environment. Further, after 1970 trickle down fails statistically, suggesting support for Marx's AGL.[9]

To some, the 1970 "Break" corresponds to the end of one social structure of accumulation (SSA) – here termed a "institutional environment of accumulation" (IEA) –

---

[6] Marxology is avoided, because if would make the paper much too long.

[7] Theoretical refutations such as that of Robinson (1966: ch. 4), Wolfson (1966: ch. 3), and Howard and King (1975) are clearly relevant and are the basis of some of the material in this paper.

[8] The time coefficient $\approx$ 8.5E-05 per quarter, with t-stat $\approx$ 1.15.

[9] The time coefficient $\approx$ 2.2E-04 per quarter, with t-stat $\approx$ 6.5.

and the beginning of another.[10] For example, this might have been a shift from welfare-state "security capitalism" (Weisskopf, 1981) to a neoliberal IEA (cf. Houston, 1992) – where the latter unleashed the AGL.
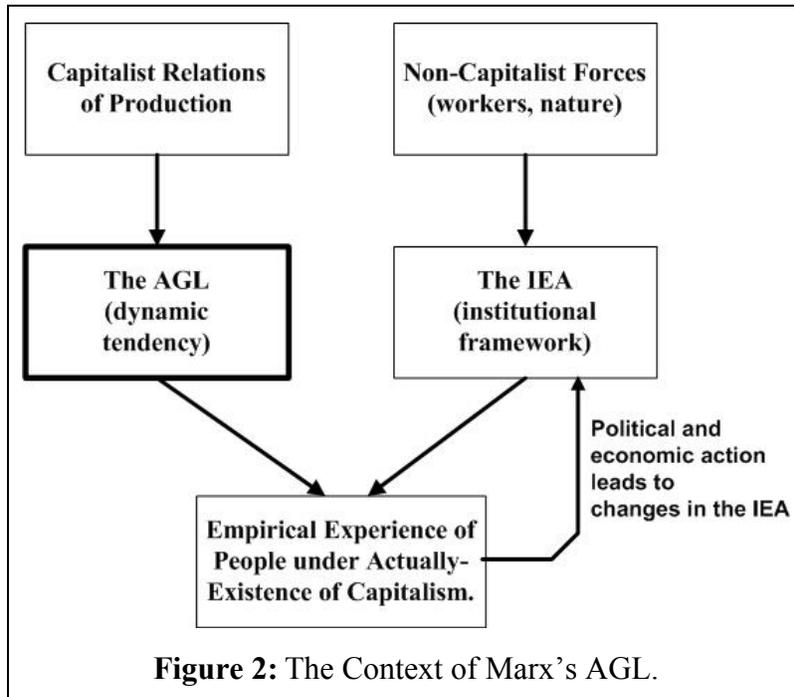

Figure 2: The Context of Marx's AGL.

This paper's general theoretical viewpoint appears in Figure 2. The dynamics of the AGL are initially assumed to be valid – and unchanged as long as capitalism exists.[11] But its empirical expression varies, depending on the nature of the IEA, a hangover from previous history (which partly arises from and can be modified by non-capitalist forces such as workers or nature). The IEA can either counteract the AGL (perhaps as before 1970) or reinforce its predictions (perhaps as after the Break). Any results experienced by

---

[10] What is often called a "stage of capitalist development," "mode of accumulation," or "mode of regulation" will be instead called an IEA. Because the IEA differs theoretically from the SSA concept of Gordon et al. (1982), their term are not used.

[11] Capitalist relations of production refer to generalized commodity production, with labor-power treated as if it were a commodity. Workers are separated from ownership of means of production and subsistence.

people lead to economic and political action which cause quantitative or qualitative

changes the IEA, perhaps as large as that posited as happening *circa* 1970.[12]

Below, *§I* explains my interpretation of the AGL, assuming it to be correct, along

with major elements of the IEA that help define its empirical expression. A complete

analysis of the IEA and further empirical study, however, are beyond this paper's scope.

Next. *§II* analyzes the law's internal logic, while *§III* makes some concluding remarks.

I. The AGL and Counteracting Forces.

Marx summarizes his AGL as follows:

> "The greater the social wealth, the functioning capital, the extent and
> energy of its growth, and therefore also the absolute mass of the proletariat
> and the productivity of its labor, the greater is the industrial reserve army.
> The same causes which develop the expansive power of capital, also
> develop the labor-power at its disposal. The relative mass of the industrial
> reserve army thus increases with the potential energy of wealth. But the
> greater this reserve army in proportion to the active labor-army, the greater
> is the mass of a consolidated surplus population, whose misery is in
> inverse ratio to the amount of torture it has to undergo in the form of labor.
> The more extensive, finally, the pauperized sections of the working class
> and the industrial reserve army, the greater is official pauperism. This is
> the absolute general law of capitalist accumulation." (Marx, 1976, ch. 25,
> §4, p. 798, emphasis suppressed.)[13]

My interpretation is that this is the opposite of the trickle-down theory sketched above:

ceteris paribus, a structurally-based tendency exists for capitalist accumulation to in-

---

[12] The Break in 1970 has been explained by a "structural crisis" of the old IEA that undermined its persistence. However, the dating of the break is arbitrary (though Sherman (1991: ch. 8) finds a similar break, in labor-market behavior). Further, data for the entire period significantly reject the AGL (time coefficient $\approx -4.9\text{E-}05$, with t-stat ≈ -2.5). The data are for illustration purposes only.

[13] Unless noted, quotes from Marx are from this volume and edition, with spelling Americanized.

crease class inequality. Immiseration means that workers do not benefit from increases in their productivity: without special effort by either governments or labor organizations, market forces (dominated by capital) do not provide and real wages fall behind. The following subsections discuss this interpretation.

A. <u>Labor Armies</u>. The specifics of the AGL can be understood first in terms of the kinds of labor armies Marx is asserting that capitalism creates.

(1) The creation of a latent reserve army (ch. 25, §4, p. 796) is central to the AGL, but inherently involves interaction between capitalism and non-capitalist institutions: this army is created through primitive accumulation. See *§§I.C.(1)(a)* below.

(2) The AGL is not about cyclical or aggregate demand issues. Marx abstracts from "large-scale and periodically recurring forms [of unemployment] that the changing phases of the industrial cycle impress on" the relative surplus population (ch. 25, §4, p. 794), i.e., deficient-demand (cyclical) unemployment. This fits with his earlier assumption that "capital passes through its process of circulation in its normal way" (part VII, introduction, p. 709). In context, the word "normal" seems to involve an assumption that there are no realization (effective demand) crises, i.e., that Say's Law applies.[14] Indeed, such crises play no role in part VII of volume I.

This assumption is dropped in volume II of *Capital*, when circulation and realization are analyzed, using circuits of capital and reproduction schemes. One interpretation of Marx's crisis theory says that <u>in the abstract</u> accumulation can progress without violating the conditions necessary for full realization of surplus-value[15] implied by his volume

---

[14] This goes against his own critique of Say (e.g., ch. 3 *§2(a)*, 209-9).

[15] Assume that value categories correspond to price categories on the aggregate level. That is, total value = national income, surplus-value = total value, and variable capital = total wages and salaries.

II reproduction schemes. However, the AGL of volume I implies that these conditions

will be broken <u>in practice</u>. This breach might have been explained in the very-unfinished

volume III, which combined production with circulation:

> "The conditions for immediate exploitation [production of surplus-value]
> and for the realization of that exploitation [as property income] are not
> identical. Not only are they separate in time and space, they are also sepa-
> rate in theory. The former is restricted only by the society's productive
> forces, the latter by the proportionality between the different branches of
> production and the society's power of consumption." The latter is deter-
> mined "by the power of consumption within a given framework of an-
> tagonistic conditions of distribution, which [under the AGL] reduce the
> consumption of the vast majority of society to a minimum level ..."
> (Marx, 1981, ch. 15, §1, p. 352).

This interpretation is applied below, in *§§II(6)(b)*.

(3) Marx's stress is also not on the floating reserve army of workers repelled or

attracted by different sectors (ch. 25, §4, p. 794-5). This frictional unemployment seems a

normal element of working-class misery that benefits capitalism (and individual capital-

ists) by making the system more flexible. This is not search unemployment, in which

workers voluntarily seek better jobs.[16] Rather, it is more like turnover unemployment in

which employers (such as McDonald's or Wal-Mart) facing secondary labor markets rely

on a constant outflow and inflow of mostly temporary employees.[17] To Marx, writing in a

period before large numbers of workers gained job security (in primary labor market

jobs), this kind of employment relationship was the rule rather than the exception.

---

[16] In reality, this unemployment is minimal, since it is relatively easy to seek a new job while keeping one's current job (especially in the modern age of white-collar work and e-mail). Search theories of unemploy-ment typically ignore the "cost of job loss" (Schor, 1987).

[17] On segmented labor markets theory, see Dickens and Lang (1988).

At any one time, a microeconomic AGL is expressed by some sectors and not others, with the latter canceling out some of the effects of the former: some (e.g., manufacturing in the current era) repel workers while others (e.g., services) attract them. The combination of these tendencies – along with the rate of capital accumulation – gives the <u>aggregate</u> AGL, the focus of this paper.

(4) The AGL centers on the stagnant population – today called the working poor – who work "a maximum of working time and a minimum of wages" and have "extremely irregular employment" (ch. 25, §4, p. 796). This corresponds to jobs in the secondary labor market, with employers of the Wal-Mart ilk. As in Marx's time, these workers are part of the active army of labor, i.e., employed by capital. However, today's working poor do not work primarily in "backward" capitalist sectors (that had not "progressed" from handicraft to manufacture to machinofacture); instead, these sectors seem the cutting edge in employment contracting. This trend toward a growing secondary sector seems one of the predictions of the unfettered AGL.

Being unemployed for long periods was very difficult in Marx's day, due to the absence of a modern welfare state.[18] So instead of being persistently unemployed, workers took almost the first job available, ending up as part of the working poor.[19] Thus, many of the working poor are underemployed, i.e., not utilizing their skills to a full extent. But with a modern welfare state (with unemployment insurance and the like) many can look for jobs full- or part-time and are instead officially counted as employed. Many might be thought of as structurally unemployed, i.e., those of the floating reserve army

---

[18] See Schor (1987) for a comparison of unemployment in countries with and without welfare states.

[19] Instead of relying on the welfare state (or union-run welfare funds), workers can borrow, run down savings, sell consumer durables (such as houses), live off of relatives and friends, beg, or steal.

who face severe barriers (such as skill gaps, geographical barriers, and racist or sexist discrimination) to moving into new jobs. Thus, the empirical expression of the AGL would vary under different institutional arrangements: the working poor and the structurally unemployed are two forms of the same phenomenon, the "poor."[20]

Next, the AGL concerns the poorest of the poor, what Marx calls the "lowest sediment," i.e., the paupers (or homeless), those in debtors' prisons, those in criminal prisons, etc. (ch. 25, §4, p. 797). This group would likely not be measured as open unemployment following official definitions because people are institutionalized (and thus out of the labor force), employed, or simply missed by enumerators (as with many homeless).

The nature of this class depends on the type of welfare state. Debtors' prisons represent a pre-modern welfare state. In the current era in the U.S., what might be called the "post-modern" welfare state is more punitive than what is here called the "modern" welfare state: for example, impoverished mothers have been pushed toward servitude under "welfare reform." The shift from the modern to the less-generous postmodern welfare state seems part of the AGL's predictions. However, the causation here must occur partly via politics, as discussed in *§§II.(2)*.

In the AGL, does the number of poor increase absolutely – or relative to the total proletariat? If interpreted in an absolute way, Marx's law is true almost by definition since the labor force grows – and is thus uninteresting. Thus, I interpret the AGL in terms of rising unemployment rates and/or a rising role of the working poor.

B. Immiseration. Is Marx's immiseration represented by falling real wages or by rising inequality of incomes, a rising rate of surplus-value (**RSV**)? The literature suggests

---

[20] The "poor" are defined differently in this paper than in official studies.

that after his earlier works (such as the *Manifesto*), Marx did not predict an <u>absolute</u> fall in average real wages per hour of labor-power hired (**w**).[21] Rather, he predicted increased inequality: **w** falls relative to labor-power productivity (**y**, the net output of use-values per hour of labor-power hired),[22] so that the rate of surplus-value and the property-income share of total income rise. **RSV** equals:

$$\text{\textbf{RSV}} = \textbf{S}/\textbf{V} = (\textbf{y} - \textbf{w})/\textbf{w} = (1/\omega) - 1 \tag{1}$$

where **S** is surplus-value (total property income) and **V** is variable capital (total wages and salaries).[23] The above assumes that the realized value of labor-power (**ω**) equals **w**/**y**.[24] Thus, if **RSV** is constant, so is the **ω**, while **w** is rising in step with productivity.

Absolute immiseration may play a role, for two complementary reasons. Braverman (1974: ch. 13) emphasizes the abolition non-market sources of subsistence. To Devine (2001), this means that the full "cost of living" rises faster than a conventional consumer price index or consumption price deflator. Thus, even with officially-defined real wages (**w**) rising, real wages may fall when deflated using the full cost of living.[25] Relatedly, increases in the official real wage may be associated with increases in insecu-

---

[21] See Sowell (1960, 1985: 132-40) and Baumol (1983). Marx was clear that "in proportion as capital accumulates, the situation of the worker, be his payment high or low, must grow worse" (ch. 25, §4, p. 799).

[22] That is, **y** is value-added (net of depreciation) per worker-hour hired. Hours of labor-power hired are used throughout this paper. The discussion also applies to non-hourly employment. In <u>Capital</u>, Marx focuses on workers paid by the day, so that the length of the working-day is crucial. Here, the intensity of labor replaces that issue. Reality combines the two.

[23] Unlike for Moseley (1995), this **RSV** excludes the remuneration of "unproductive" labor-power from **S** and includes it in **V**. My measure seems a more convincing gauge of immiseration – since those who do unproductive work are hardly always separated from other workers in terms of life experiences.

[24] Strictly speaking $\omega = \textbf{w}/\textbf{y}_{II}$, where $\textbf{y}_{II}$ is labor productivity in the wage-good sector (department II). Over time, the assumption only works exactly with even development between sectors.

The *realized* value of labor-power differs from the *notional* Marxian value of labor-power (**ω***) which allows a moral and historical subsistence level to be attained. **w** is the "market price" of labor-power or the realized real wage, which oscillates around **w***, the notional real wage corresponding to **ω*** = **w***/**y**.

[25] Data in Devine (2001) suggest that when measuring the "cost of living" to incorporate non-market costs, U.S. private-sector real wages have fallen substantially since the 1970s. Using this measure, "real" wages

rity (cf. Gosselin, 2004). Second, to Lebowitz (2004: ch. 3), absolute immiseration can occur even if **w** rises, however deflated: either capitalism's development or working-class victories increases needs, changing preferences: satisfaction (utility, **u**) received from any given **w** falls.[26] Neither of these impoverish workers, of course, if **w** rises. So the validity of an absolute immiseration hypothesis depends on the degree to which relative immiseration occurs.

Braverman (1974) emphasizes the immiseration of employed labor. Jobs are routinized to make work more controllable by management, making each worker more of an interchangeable part and thus less costly. Boring and dehumanizing methods replace craft-style or professional work.[27] Since consumption goods represent a partial substitute for job satisfaction, this contributes to the rise of needs mentioned above.

C. *Ceteris Paribus*. Marx's use of the word "law" is akin to that of modern economics: like the "law" of demand and supply, the AGL works only when specific assumptions are met. Further, Marx notes that: "Like all other laws, it is modified in its working by many circumstances, the analysis of which does not concern us here" (ch. 25, §4, p. 798). This is a version of the common *ceteris paribus* clause. Similarly, the empiri-

---

for all private-sector workers or all manufacturing non-supervisory workers fell about 15% between 1973 and 1998, compared to a 10% fall using the CPI or constancy using the consumer expenditure deflator.

[26] "The goods and services that made it possible to live on $15 a week during the Depression were no longer available to a family with the same 'real' income (i.e., $40 a week) in 1964. Eating habits had changed, and many cheap foods had disappeared from the stores. Most people had enough money to buy an automobile, so public transportation had atrophied, and families without automobiles were much worse off than during the Depression. The labor market had also changed, and a person without a telephone could not get or keep many jobs. A home without a telephone was more cut off socially than when few people had telephones and more people 'dropped by.' Housing arrangements had changed, too. During the Depression, many people could not afford indoor plumbing and 'got by' with a privy. By the 1960s, privies were illegal in most places. Those who could not afford an indoor toilet ended up in buildings which had broken toilets. For this they paid more than their parents paid for privies. Examples such as this suggest that the 'cost of living' is not the cost of buying some fixed set of goods and services. It is the cost of participating in a social system." (Jencks, *et al*., 1972: 5)

[27] See *§§II.(5)(a)*, below.

cal effect of a demand shift depends on any counteracting supply tendencies that occur. As with the (in)famous tendential fall of the rate of profit, counteracting tendencies can exist that prevent the empirical realization of the main tendency. As before, how the AGL is expressed empirically depends on extraneous factors.

Two major types of circumstances (part of an IEA) change the AGL's expression: **(1)** the "supply side" of labor-power markets and **(2)** world-wide uneven development.

(1) <u>The Supply Side</u>. Marx aimed to overthrow supply-side theories, such as that of Malthus, which blame workers for their misery. Thus, his analysis of wage determination is entirely focused on the demand for labor-power. For example, he summarizes a major part of his analysis as follows:

> "To put it mathematically: the rate of accumulation is the independent, not the dependent variable; the rate of wages is the dependent, not the independent variable." (ch. 25 §1, p. 770.)

Here accumulation is the main determinant of shifts of the aggregate demand for labor-power. Unfortunately, Marx's supply side is cursory. For example, he writes that

> "For since in each year more workers are employed than in the preceding year, sooner or later a point must be reached at which the requirements of accumulation begin to outgrow the customary supply of labor [-power], and a rise of wages therefore takes place." (ch. 25, §1, p. 763.)

This suggests that the labor-power supply curve (supply of **LP**) is backward-L shaped, becoming steep at the "customary" quantity supplied (**LP***), as in figure 3.[28]

---

[28] The labor-power market is not unified since there are a large number of heterogeneous markets and non-market mechanisms involved. There is no "aggregate supply of labor-power," so this curve should be seen as describing hypothesized *ex post* results of the determination of the average real wage by the quantity of labor-power demanded. Demand is also fragmented, but individual demand curves tend to move together in cycles and growth.

Figure 3 shows one possible case for the short term. Here, supply and demand <u>set the context</u> for the current class struggle rather than determining its results: there is no presumption here that supply/demand equilibrium marked will be attained via the workings of "market forces" (static intra-class competition). Rather, the unpredictable process of class conflict can be central to either equilibration or disequilibration or even the changing of the economy's structure.

Figure 3: The "Market" for Labor-Power
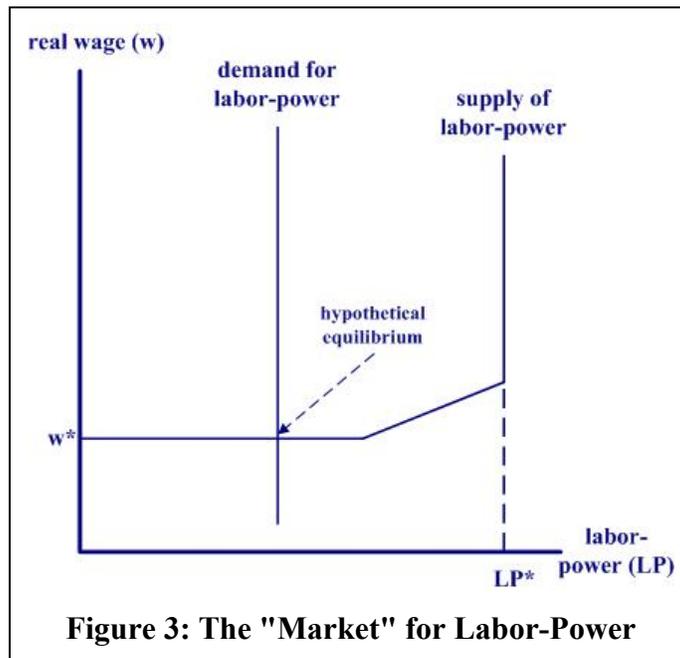
The demand curve is drawn as vertical because of the lack of neoclassical technical substitution in Marx's aggregate analysis.[29] Shifts in demand occur due to changes in accumulation. The horizontal tail of the supply curve corresponds to the socially and historically-determined subsistence wage (**w***). **LP*** represents the customary limits on workers' supply of hours of labor-power. Crucially, Marx leaves this vertical part unexplained. Turn to an explanation.

---

[29] This makes sense in terms of the "Cambridge critique" (cf. Harcourt, 1972).

(**a**) The customary supply depends on the availability of the latent reserve army, e.g., the agricultural reserve. Under some or most non-capitalist ways of organizing production, workers have very steep individual **LP** supply curves: instead of working more hours for capitalists as **w** rises, a producer may work on her or his own individual plot – or take more non-labor time.[30] Further, the collective organizations of non-capitalist agriculture (Mexican *ejidos*, etc.) limit the supply of **LP** to capitalists.

Commercializing agriculture – including violent primitive accumulation[31] – breaks these limits, expands the latent army, and increases the **LP** supply to capital. However, once capitalism has completely transformed and mechanized agriculture, as in most rich countries, non-capitalist agriculture no longer limits **LP** supply. The population fleeing rural life no longer supplies enough labor-power to keep **w** from rising.

It is likely, however, that the "1950s-style family" (with female workers specializing in producing non-commodified use-values at home) replaced the rural reserve as a latent reserve army. Even this reserve army can be depleted and has largely been so, with the mass entry of women into the paid labor force after the 1960s.

As the latent army shrinks, the limits on the supply of labor-power become increasingly demographic, i.e., the size of the working-age and able population. While the definition of the this population itself is partly or even mainly socially-determined, "natural" limits to the supply of labor-power are eventually hit. So immiseration may not occur as accumulation and demand increases pull wages upward.

---

[30] The remarks by Mandeville that Marx quotes (ch. 25, §1, p. 764-5) imply this kind of phenomenon.

[31] This creates capitalist property rights in land and other means of production and separates the producers from direct access to the means of subsistence (cf. volume I, part VIII).

Here enters Marx's <u>profit squeeze</u> theory (ch. 25, §1, pp. 770-2; cf. Goodwin, 1967, Goldstein, 1985). High employment and high wages lead to a slowdown of accumulation and a re-creation of the reserve army. Marx's logic is sometimes complemented by induced labor-saving technical change, i.e., that high wages encourage mechanization (cf. Kennedy, 1964).[32] For further on this latter notion, see *§§II.(5)(b)*. For an individual country, capital flight to lower-wage climes can also result.

(**b**) Getting beyond the 1867 context of volume I of *Capital*, but still on the supply side, the effects of the AGL depends on the effective degree of proletarian organization and class consciousness. If powerful enough, the working class can use trade-union and labor-party power to insist that the state violate the purity of free-market capitalism, introducing welfare-state programs and raising **w***, the tail of the supply curve.

In *Capital*, Marx assumed that the working class was not successful at counteracting the AGL (Lebowitz, 2003). If so, neither **w*** nor the actual wage rises with labor-power productivity, **y**, so that **RSV** rises. <u>The AGL follows logically</u> from the assumption. The message of the AGL was "this is what will happen if you do not fight back." In other words, Marx was saying that "organize – or else mourn."

Dropping Marx's assumption, Lebowitz limns the process by which **w*** rises (see also Rowthorn, 1979), raising the tail of the supply curve in Figure 3. Capitalism's development involves rising social needs and the shrinkage of non-capitalist ways of fulfilling those needs, depressing **u** for any given **w** as conventionally measured This raises the moral and historical element of subsistence when stated as a wage (**w***). But the increase in **w*** does not automatically become translated into a rise in the actual real wage, **w**. In-

---

[32] The words "machines" and "mechanization" will be used interchangeably with "means of production"

stead, unions and other labor organizations react to falling **u** by fighting for pro-worker programs. If these efforts are successful, **w** rises. Success is more likely when labor-power demand is high relative to **LP***.[33]

This process started with rising needs, but it might start instead with abundant accumulation causing tight labor-power markets or with highly successful unionization efforts instead. After that, a virtuous circle of rising real wages might result. If actual wages (**w**) stay high long enough, this implies a rise of the moral and historical element of subsistence, raising **w***. This in turn produces a pressure to raise **w** or to prevent its fall.

Taking this process as given, therefore, the empirical validity of the AGL depends on a <u>race</u> between the wage-depressing forces of the AGL and the organizational success of the working class. This consideration in no way negates the AGL as an alternative to trickle-down: the benefits do not arise from the assumed benevolence of the Invisible Hand but instead must be wrested from below. If this latter effort fails, a vicious circle of declining real wages (relative to **y**) prevails.

(2) <u>World-Wide Uneven Development</u>. Is this "law" describing the behavior of the whole of capitalism or just a part? I interpret this as representing all of capitalism. Marx assumed that the <u>whole world</u> is capitalist (ch. 24, §1, p. 727, note 2). Further (ch. 25, §3, p. 791-2), he criticizes economists for confusing the "general movement of wages" (his topic) and the "distribut[ion of] the working population over the different spheres of production." He rejects the fetishized focus on "local oscillations of the labor-market in a particular sphere of production" (partial-equilibrium thinking).

---

and rising technical (organic) composition of capital.

[33] High demand in a minority of labor-power markets may have this effect if these sectors have strategic positions in the economy (i.e., large spillover effects).

Returning to issues of verification, most empirical studies examine only rich countries.[34] This is an incomplete and thus biased sample, since it ignores uneven development between countries and imperialism.[35] Bringing these factors in, Arrighi (1990) analyzes the predictions of the *Manifesto* and the AGL, suggesting that some of the predictions work well in the core (dominant) nations while others work in the periphery (dominated) ones. Given restrictions on international labor mobility and the costs of running businesses internationally in the 1950s and 1960s, core workers were not directly in competition with workers the periphery, so that in effect world capitalism was divided into two main parts.[36]

At one end of the spectrum, the core (which had depleted most of its agricultural reserve) saw successful development of both aggregate wealth and labor organization, effectively swamping the AGL and immiseration tendencies after World War II. The U.S., as the hegemonic country in world imperialism, could benefit from exploitation of – and dump many of its problems on – the periphery. This situation allowed successful labor organizational efforts, leading to a *de facto* truce ("accord") and the creation of the modern welfare state which counteracted the workings of the AGL. The U.S. role in the world system also encouraged the rise of the <u>warfare</u> state, which also maintained helped demand for labor-power. This might be termed a "strong labor" ("labor scarce") situation (cf. Devine, 1994) in which (toward the end of the business-cycle boom) accumulation tends to pull of real wages faster than labor-power productivity grows.[37] Similar condi-

---

[34] Macdougall's (1997) empirical discussion of immiseration does not fall in this trap.

[35] Uneven development arises partly from the institution of the nation-state and its effort to promote national prosperity, paper over class antagonisms, and serve the needs of localized capital.

[36] The world is more complicated than this simple distinction. This paper is very abstract.

[37] This can be stretched out, as with the high-demand period of the Vietnam war.

tions were seen in other core countries, with labor parties and welfare states playing a larger role – and the warfare state playing a smaller one – in Western Europe.

At the other end of the spectrum, the problems of economic crisis, primitive accumulation, and immiseration hit hardest in the periphery. The workers' virtuous circle sketched above played almost no role. This might be called a "weak-labor" ("labor abundant") situation. Empirically, the AGL works relatively well there – as it does between the core and the periphery (the "widening gap"). Anti-capitalist revolutionary movements were also stronger in the periphery.

In the period since 1970 and increasingly since 1980, i.e., the neoliberal phase of U.S. and world capitalism, a world-wide employers' offensive has disrupted past class truces. Eventually, by encouraging capital and labor-power mobility, capitalism undermines much of development's unevenness, moving toward downward harmonization of labor standards. So far, it has not abolished the poverty of workers in the poor countries (except perhaps in some cases, such as South Korea, but that is still not written in stone). This suggests that the AGL is now operating on a world scale in a more unified way.

In the long run, the world's non-capitalist sectors and latent reserve army might be abolished, abolishing the tendency toward immiseration. This would evoke the profit-squeeze-driven slowdown of accumulation that Marx sketched.

II. Internal Workings of the Law.

So far, the AGL has been assumed to be true. Now examine its internal logic. My interpretation is summarized by Figure 4 (unpacking the thick box of Figure 2). The AGL involves circular and cumulative causation, a vicious circle for labor. The AGL's predictions apply if conditions are right; if there are no counteracting forces, the law reproduces

the conditions that encourage its own operations. But if counteracting forces – e.g., a strong labor movement in a core country – exist, the AGL can be reversed, forming a virtuous circle for labor, at least for awhile: the profit-squeeze theory and the growing international mobility of capital and labor-power limit this circle.

Start with box [1]. While most boxes in the chart are straightforward, boxes [4] and [6] have theoretical problems.
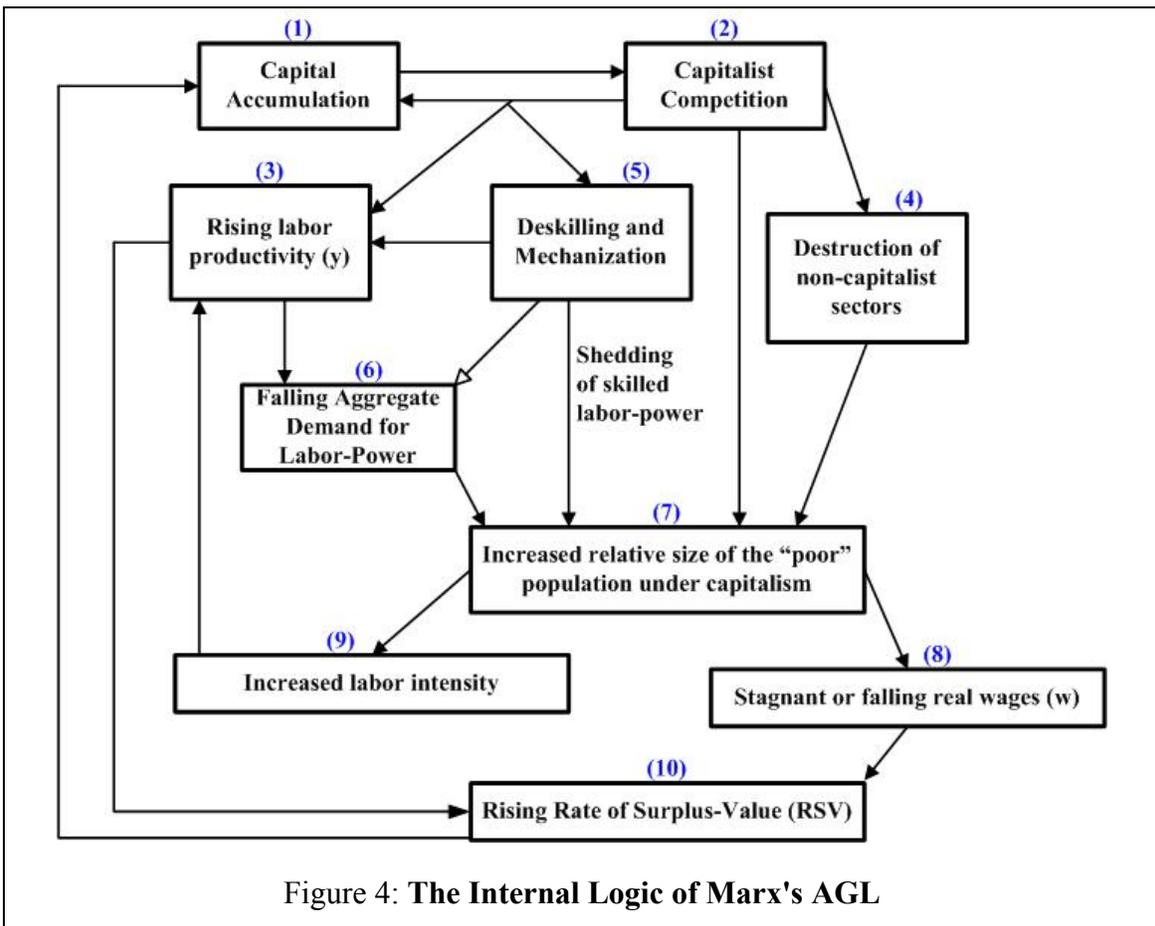
Figure 4: **The Internal Logic of Marx's AGL**

(1) Rising **RSV** encourages faster accumulation. Surplus-value is used to expand constant and variable capital (machines and labor-power), along with reproduction of

capitalist social relations on a larger scale. This makes sense, since increased property income encourages fixed investment and thus the expansion of the economy.[38]

In Marx lore, it is common to misquote his "Accumulate! Accumulate! That is Moses and the prophets!" (ch. 24 §3, p. 742) as part of his view that capital has a strong bias toward expansion. Devine (1994) argues that this bias is instead structurally based, in capitalist competition and class antagonisms. Because these tensions are not abolished unless capitalism itself goes away, they represent continual pressures for accumulation. As seen below, this drive is occasionally blocked and/or ends in crises.

(2) In discussing the AGL, Marx deviates from his volume I emphasis on "capital as a whole" to introduce the competition of "many capitals" (ch. 25, §2). This is not neo-classical-style perfect (unreal) competition among atomistic and homogeneous units. It is more a matter of <u>positional</u> competition among heterogeneous capitals struggling to sur-vive.[39] Competition involves economies of scale in which "the battle of competition is fought by the cheapening of commodities" (ch. 25, §2, p. 777).[40] With the development of the credit system and such financial/legal agglomerations as limited-liability joint-stock corporations, this encourages the centralization of capital. This, for example, can be seen in the competition in the retail market, as dominated by Wal-Mart.

Capital accumulation and the battle of competition interact with, and reinforce, each other. Individual capitalists must accumulate means of production to attain econo-mies of scale, increased productivity, lower prices – to conquer competitors and avoid being driven out of the game. Accumulation encourages competition, until the centraliza-

---

[38] This follows if investment increases more than (or as much as) saving or Say's Law is invoked.

[39] Marx largely abstracts from heterogeneity in volume I.

[40] This is what is now called cutthroat or destructive competition emphasized by Perelman (1999).

tion of capital produces monopoly – a tendency generally counteracted by the growth of product markets and entry from other industries.

Economies of scale can be complemented by economies of scope and other advantages of large size. The latter include distribution, repair, and support networks, a good public image, monopolizing shelf space at the retail level, the ability to win low prices from suppliers and favorable terms from banks, and the like. Getting beyond narrow economics, this also involves political clout, legal firepower, and ideological influence. Companies advertise, sue each other, and deploy armies of lobbyists to "seek monopoly rents" at the expense of each other and of worker/consumers. These latter types of competition appear differently than does purely economic competition: as part of their relative autonomy from "the economy," competition on these levels follows different rules (e.g., the constitution for political competition). In the end, success at one level often reinforces success on other levels; failure can be similarly self-reinforcing.

Though competition is crucial to the AGL, the underlying unity of capitalist interests should not be forgotten. This can be seen on the political level, where competitors attain compromises to defend such basics as their property rights and societal order. Further, given weak working-class resistance, disparate capitalist interest groups unite behinds such programs as neo-liberalism. Political unity was crucial to the persistent transition to neo-liberalism posited to explain the Break in Figure 1. In other eras, such unity has promoted monopoly. Typically, however, capitalist competition does not produce monolithic capitalism, especially on a world scale. Thus, this paper ignores the case where accumulation is blocked by total monopoly (e.g., Baran, 1957: chs. 3 & 4).

(3) Competition accumulation can lead to over-accumulation (cf. Devine, 1980: ch. 4; Frank and Cook, 1995: 106-9). Because of barriers to success – and its positional nature – competition might be likened to that amongst weight-lifters allowed to use steroids. The weight-lifting records improve, but most differences amongst the lifters remain. The competitors suffer a cost (the side-effects and price of the drug) while the number of winners does not increase. The costs of competition can drive some out, so they join the proletariat, possibly raising the size of the poor population. Further, the fear of being driven from the game spurs competition.

Competitive accumulation – or accumulation to compete – encourages cost-cutting, especially (but not solely) for those not able to use economies of scale and other advantages of bigness. This obviously involves cutting wages or seeking cheaper labor-power supplies – since labor costs represent the lion's share of costs – but there are limits due to workers' resistance. Thus, efforts to lower costs would lean toward raising labor-power productivity by increasing the effectiveness of labor (use-values produced per unit of effort) and/or the intensity of labor (effort per hour of labor-power hired).[41] Thus, changing technology and/or work relations help in the competitive battle.

(4) After primitive accumulation has broken the backs of non-capitalist relations of production or reproduction, alternative organizations lose their internal resilience. They then decay due to the impact of competition from – or take-over by – capitalism, becoming the source of the latent reserve army of labor. As these shrink, labor-power moves into the stagnant reserve army of labor, joining the poor.

---

[41] With productivity as net output of use-values per hour of labor-power hired ($y = Y/LP$), this can be stated as $y = (Y/L) \cdot (L/LP)$ or (effectiveness of labor)·(intensity of labor), where L is the actual amount of labor done for the time that labor-power is hired.

(5) Marx argues that competitive accumulation encourages not only (**a**) deskilling but also (**b**) mechanization (raising the technical composition of capital, **TCC**).

(**a**) As Braverman (1974: ch. 9) stresses, automation replaces skilled labor once the job has been sufficiently simplified, allowing the separation between conception and execution. Then, the planning and order-giving jobs are taken by capitalist managers, leaving only order-following to workers. Deskilling also undermines craft-based unions and informal work groups based on skill commonalities.

Clarifying Braverman, deskilling destroys only <u>worker-controlled</u> skills, e.g., craft-type knowledge passed down over time.[42] These are replaced by capitalist-controlled skills or general skills that cannot be worker-controlled – but are instead distributed through capitalist-controlled on-the-job training and the official education system. Bureaucratic rules, credentials, tests, and regulations complement machinery in putting worker skills under capitalist control. Crucially, it is not workers who lose their skills as much as <u>jobs</u> that are deskilled – so that many skills lose their worth to employers and their value on the market.

The main limit of this analysis mirrors that of *§§I.C.(1)*: the empirical degree of skill used in a society depends not only on the demand for skills (i.e., accumulation and production) but also the supply of skills (the training and education process). Just looking at core countries, one might conclude that the deskilling hypothesis is utterly wrong. However, all else equal, if a work process is routinized, the job can be exported to countries with large supplies of cheaper labor, as in Vernon (1966). High-skill jobs gravitate to places where workers are more skilled (the core, until very recently). The empirical

degree of deskilling of any given country depends on how skilled workers are. It also depends on the success of trade unions and governments at saving workers from deskilling. In many cases, those in core countries have been more powerful.

New industries arise, involving new skills. Profit-seeking means that these are more likely to be created where worker-controlled skills are rare but workers have greater general education.[43] If new worker-controlled skills cannot be avoided, new struggles by management aim to deskill jobs. Further, new skills are typically qualitatively different from those rendered redundant in old industries. So there is a tendency for those with established skills to be undermined by competition with less-skilled workers. Many of those with established skills may be "down-sized," dropping into the general labor-power market, threatening to become poor.

(b) Machinofacture ("Modern Industry") is the third step of capitalism's revolutionizing of production, after the moves to simple cooperation and the technical division of labor. As Marx argues (vol. I, chs. 13-15), movement through these steps typically increases the role of economies of scale in production. Various other technologies (such as those of communication, transportation, and data processing) similarly contribute to the advantages of bigness.

These also involve not just efforts to raise productivity but represent part of the class struggle waged by capitalist managers to control the work process, raise labor intensity, and lower wages. Though other methods of managing labor exist besides "machine-pacing" (technical control) such as "bureaucratic control" and "simple control" (cf. Ed-

---

[42] Worker-controlled skills need not be ancient. In a company, some workers can develop new technical and bureaucratic knowledge that they can then monopolize for themselves and their allies.

[43] For example, during the early English Industrial Revolution, new industries eschewed areas with guilds.

wards, 1979), these are not complete substitutes. Instead, they are often complementary.

Technical control seems to be preferred, since it is less dependent on the uncontrollable

"human factor," which capitalist managers strive to minimize (Braverman, 1974). The

perpetual micro-level struggle between management and labor suggests that capitalist

production involves a bias toward machine-using technological change.

The degree of mechanization (**TCC**) would be measured as **MP/LP**, where **MP** is

the mass of fixed means of production.[44] Since heterogeneous objects cannot be added to

produce a scalar, some sort of aggregation scheme is needed.[45] To clarify Marx's as-

sumption that **TCC** could be measured as the organic composition of capital (**OCC**), Fine

and Harris (1979) use a fixed-weight index of machinery using "old values" as weights.[46]

If one accepts induced technical change theory, as some AGL defenders do,

mechanization would also be encouraged when real wages rise.[47] Unfortunately, higher

wages can also make machinery more expensive, discouraging such substitution. This is

not a problem for the AGL if even development prevails between sectors (which implies

that relative prices between consumer goods and machinery stay roughly constant).[48] But

if the machine-producing sector (department I) is technically less progressive, as in the

---

[44] Natural limits on the supplies of raw materials are abstracted from, to focus on the role of fixed capital.

[45] This paper ignores the aggregation problem with respect to labor-power.

[46] This assumes that each of the different types had a value in the base year. $\mathbf{MP} = \sum_j \overline{\mathbf{v}_j} \cdot \mathbf{MP_j}$ for all means of production $\mathbf{MP_j}$, where $\overline{\mathbf{v}_j}$ is its base-year value. Note that this aggregate may not rise due to increased mechanization if there is a major shift to machinery with lower values, even though the values are fixed. It is assumed anyway.

[47] To Nordhaus (1973), induced technical change is like neoclassical factor substitution but involving implementation costs for new techniques and occurring in historical time. Given the Cambridge critique, this theory is doubtful.

[48] Let $\mathbf{p_i}$ be the price of good $\mathbf{i}$ (**I** for machinery, **II** for consumer goods) and let $\mathbf{p_{II}}$ be the numéraire so that the nominal wage = the real wage (**w**). If $\mathbf{m_i}$ is the mark-up on unit labor costs ($\mathbf{w_i}/\mathbf{y_i}$) in sector $\mathbf{i}$, then a simple mark-up pricing model implies that $\mathbf{p_I} = [(1 + \mathbf{m_I})/(1 + \mathbf{m_{II}})] \cdot [\mathbf{w_I}/\mathbf{w_{II}}] \cdot [\mathbf{y_{II}}/\mathbf{y_I}]$. If the ratios of mark-ups, of wages, and of productivities are constant, then the relative cost of machines $\mathbf{p_I}$ will be constant.

early stages of capitalist development, machinery prices would rise, discouraging its use. Eventually, however, as Modern Industry techniques conquer the machinery-producing industry, this barrier to mechanization disappears.

(6) Falling labor-power demand can also encourage the growth of the poor population, due to increased (**a**) capital intensity or (**b**) labor-power productivity.

(a) To Marx, rising composition of capital leads to falling demand for labor-power. Because it is more likely to describe the relative demand for labor-power and machinery, the focus must shift away from **OCC** – to the value composition of capital (**VCC**). The latter uses current values as weights for the numerator.[49] In its flow version, i.e., value spent on constant capital used up and replaced divided by that spent on variable capital, **VCC** measures the relative demand for the output of sector I *vis-à-vis* labor-power.[50] But does **VCC** rise as part of the accumulation process?

In volume I of *Capital*, Marx assumes relative price = relative value, e.g., that $p_I/w = v_I/\omega$, where p_I is the price of means of production and v_I is the value of them.[51] This means that the ratio between money spent on capital goods divided by that spent on labor-power would move with the value analog of this ratio. With only fixed capital (**MP**) being used, the flow of constant capital would equal **MP** times the average depreciation rate (or **MP** divided by its average turnover time). Assume that the depreciation rate and turnover time are constant, so that flow and stock measures move in step.

Even development between sectors keeps y_{II}/y_I roughly constant. If, on the other hand, productivity in sector II grows more quickly than that of sector I, then p_I rises.

[49] The numerator of **VCC** equals $\sum_j v_j \cdot MP_j$, where v_j is the current value of a type of **MP**.

[50] Use of this version makes sense to understand the <u>trend</u> instead of fluctuations of "factor proportions."

[51] Marx's assumption makes sense in long-run dynamics, in which most inflation-corrected prices move with values (i.e., fall as labor productivity in their sectors rise).

With the depreciation rate equal to unity, **VCC** equals:

$$\mathbf{VCC} = (\mathbf{MP} \cdot \mathbf{v_I})/(\boldsymbol{\omega} \cdot \mathbf{LP}) = [\mathbf{v_I}/\boldsymbol{\omega}] \cdot \mathbf{OCC} \qquad\qquad (2)$$

Assuming that **OCC** rises (measuring the rising **TCC**), there are two main cases.[52]

First, if $\boldsymbol{\omega}$ and **RSV** are constant, **VCC** rises <u>only if</u> **OCC** rises faster than $\mathbf{v_I}$ falls. But rising **OCC** should raise labor-power productivity, cheapening machinery: $\mathbf{v_I}$ falls, so that **VCC** increases more slowly than **OCC**. Crucially, if productivity growth occurs at the same pace in both sectors I and II, **VCC** would stay constant despite the rising **OCC** (cf. Lebowitz, 1976, appendix; 1982).

If old-fashioned techniques are used in sector I, labor-power productivity there would increase slowly, so $\mathbf{v_I}$ would not fall much.[53] As noted, this circumstance also discourages induced technical change raising **OCC**. Even if **OCC** rises, this suggests that the rising **VCC** would be important only in early phases of capitalist development, before the machine-using techniques took over sector I. However, the idea that an important part of the AGL applies because of the backwardness contradicts the main message, i.e., that rising **VCC** represents the full development of capitalism's potential.[54]

Second, if the real wage (**w**) is constant, the $\boldsymbol{\omega} = \mathbf{w}/\mathbf{y}$ would fall, while **RSV** would rise. Assuming even development so that the $\boldsymbol{\omega}$ and $\mathbf{v_I}$ move in step, the ratio in brackets in formula (2) is constant. Thus, **VCC** rises with **OCC**.[55]

Considering an intermediate case, to the extent that the AGL applies, keeping wages from rising with labor-power productivity, the more **VCC** rises over time. This fits

---

[52] If $\mathbf{v_I} = (\sum_{\mathbf{j}} \mathbf{v_j} \cdot \mathbf{MP_j})/(\sum_{\mathbf{j}} \mathbf{\bar{v}_j} \cdot \mathbf{MP_j}) = (\sum_{\mathbf{j}} \mathbf{v_j} \cdot \mathbf{MP_j})/\mathbf{MP}$ (a Paasche index), then the value of $\mathbf{MP} = \mathbf{MP} \cdot \mathbf{v_I}$.

[53] Lebowitz (1982) quotes Marx indicating that he was very conscious of the need for this kind of uneven development to explain why **VCC** would rise.

[54] This parallels Lebowitz's (1982) view that the falling rate of profit has the same flaw.

with the view of the AGL as a vicious circle: to the extent that it starts to operate, the more completely it applies.

But the next step undermines the validity of the AGL's presumption that rising capital intensity leads to falling demand for labor-power. If **VCC** rises, then Marx's seeming "common sense" suggests that the demand for labor-power would fall relative to the rate of accumulation of capital. But this suffers from the <u>fallacy of composition</u>. Rising **VCC** by itself does not imply a fall in the demand for labor-power. Instead, it <u>shifts</u> demand for labor-power from the sectors not producing machinery to those that do.[56] However, as with the discussion of deskilling, the move from one sector to another to find jobs may be extremely costly. This encourages falls into the stagnant reserve army or structural unemployment, raising the poor population.

Despite these limitations, **OCC** and **VCC**'s roles capture an important aspect of Marx missed by orthodox economics. Mechanization is a weapon to compete with and control labor. On the micro-level, machines substitute for labor and can increase the stagnant reserve army. It is then far from cost-free for workers to find new jobs. In Figure 4, the weakness of this link is indicated by the unfilled arrowhead between boxes (5) and (6). But there is another way in which mechanization affects the demand for labor-power.

(b) If mechanization lowers such demand, it does so by increasing labor-power's aggregate productivity.[57] By definition, if aggregate net output (**Y**) is fixed, rising **y** im-

---

[55] Lebowitz (1979, 1982) comes to a different conclusion because he measures "capital intensity" in a different way that is independent of the **ω**. This disagreement is purely academic.

[56] This kind of shift has a major impact on peripheral countries which lack a machinery-producing industry.

[57] This is the connection that the Solow neoclassical aggregate production function and Kaldor and Mirlees' (1962) technical progress function highlight. DeLong and Summers (1991) provide empirical evidence.

plies falling demand for labor-power. But **Y** normally grows. Further, stagnation of **Y** cannot be assumed to prevail under the Say's Law assumption.

Moreover, the profit squeeze theory cuts both ways, as in Goodwin (1967): if real wages fall relative to labor productivity, accumulation speeds up while induced technical change theory indicates that accumulation would be relatively labor-intensive.[58] The micro-level effort by capitalists to cut wages and to speed up the labor process would, if successful, boost profits (and **RSV**), causing accumulation to accelerate, shifting labor-power. Demand in Figure 3 shifts to the right, abolishing the conditions that had allowed capitalists to cut wages and raise labor intensity. Thus, a floor exists which prevents the vicious circle from continuing. Instead of an immiserating trend, a cycle results.

However, if the supply curve in Figure 3 shifts rightward at a sufficient rate and labor organizations are atomized, a weak labor situation may persist: a boom need not end with labor scarcity. In a Harrod-Domar model,[59] the rate of growth of labor-power demand equals:

$$\mathbf{g^D} = \hat{\mathbf{Y}} - \hat{\mathbf{y}} = [\mathbf{MP/Y}] \cdot \hat{\mathbf{MP}} - \hat{\mathbf{y}} \tag{3}$$

The numbers with carets refer to the rates of growth of machinery and productivity, respectively. The ratio in brackets is the machine-output ratio. If $\mathbf{g^D}$ equals the growth rate of labor-power supply ($\mathbf{g^S}$), the unemployment rate is constant. If unemployment starts at a high rate, a weak-labor situation persists.[60]

---

[58] This kind of induced technical change is more likely, since it involves staying with existing technologies rather than developing new ones.

[59] Harris (1972) notes the similarity between Marx's reproduction schemes and the Harrod-Domar model.

[60] Starting with a very high unemployment rate, $\mathbf{g^D}$ can exceed $\mathbf{g^S}$ for awhile without abolishing labor abundance immediately.

In a weak-labor economy, with rising **RSV**, consumer demand would be stag-nant,[61] so that growth would have to be led by profitability and accumulation of means of production. This weak-labor situation may persist if high $\hat{\textbf{MP}}$ leads to a higher $\hat{\textbf{y}}$ (follow-ing Kaldor and Mirlees, 1962), lowering $\textbf{g}^\textbf{D}$.[62] Considering only a segment of world capi-talism, a boom sector may attract supplies of labor-power from other areas, raising $\textbf{g}^\textbf{S}$. Thus rising profit and accumulation rates may continue for a long time.

If the AGL is presumed to apply, however, growth becomes increasingly unstable, making the Say's Law assumption less and less viable. Increased production of surplus-value relative to total value clashes with capitalism's ability to realize value as profits as indicated by the conditions needed for stable expanded reproduction of capitalism. To see that, assume that **RSV** rises, so that the rate of profit rises when measured at any given capacity utilization rate.[63] Let **r*** be the profit rate at a benchmark rate of utilization **x***. Elsewhere (1994: 158, 179-81), I developed an equation for the conditions necessary for the maintenance of steady growth at **x***:

$$\textbf{x} = \hat{\textbf{MP}}/(\boldsymbol{\alpha} \cdot \textbf{r*}) \text{ must equal } \textbf{x*} \qquad\qquad (4)$$

where $\boldsymbol{\alpha}$ is the ratio of total accumulation of fixed capital to total surplus-value. If actual utilization (**x**) persists <u>below</u> **x***, fixed investment is discouraged and stagnation encour-aged. Persistent utilization <u>above</u> **x*** encourages faster accumulation, ramming the econ-omy against labor-power supply constraints and creating a profit squeeze. If labor's

---

[61] This assumes workers have a lower marginal propensity to consume than do capitalists and that they cannot borrow. The latter assumption is weakened below.

[62] If over-investment leads to a rise of the machine-output ratio, this result is weakened.

[63] The rate of profit = **R/MP** = (**R/Y**)/[**MP/Y**]. Assume here that the machine-output ratio is constant.

weakness is a result of weak trade unions, this profit squeeze is likely to be temporary, returning capitalism to a condition of general wage stagnation relative to productivity.

With rising $\mathbf{r^*}$, there are two polar ways that steady-state growth could be maintained (besides changing the value of $\mathbf{x^*}$, a *deus ex machina* solution unlikely to be repeated). Consider them separately, with $\mathbf{x^*}$ constant. First, with $\boldsymbol{\alpha}$ constant, $\mathbf{\hat{MP}}$ must rise with $\mathbf{r^*}$ to keep condition (4) true. The way in which rising profits encourage accumulation makes this possible. However, as investment rises relative to consumption spending, the nature of fixed investment suggests that the degree of stability of aggregate spending falls (cf. Devine, 1994). Investment creates new capacity, which is utilized primarily to serve investment demand, while investment in fixed machinery undergoes large fluctuations, often due to changes in subjective expectations. Thus, as $\mathbf{r^*}$ and $\mathbf{\hat{MP}}$ rise, condition (4) becomes increasingly likely to be broken. That is, the economy becomes increasingly subject to recession.

The alternative, with $\mathbf{\hat{MP}}$ constant, would be that the accumulation ratio ($\boldsymbol{\alpha}$) falls with the rise of $\mathbf{r^*}$. Capitalists would accumulate less and less surplus-value and/or workers would be consuming more than their wages (by accumulating debt). Again, this path is hard to sustain. Imbalances of excessive consumer durables, luxury goods, and debt make the economy increasingly fragile.

Dropping Say's Law allows either kind of brittleness – or a combination of both – to be expressed empirically as a recession. So Marx's AGL makes more sense if Say's Law is dropped. In a weak labor economy, the profit-driven surge suggested by the Goodwin model can end with a demand-side crisis, which is outside of that model. If such a crisis leads to conditions that block accumulation (e.g., extreme excess capacity

and over-building, excessive debt, and pessimistic expectations) and makes output growth stagnate, then rising **y** can lead to falling employment. Further, stagnant markets encourage the tendency toward monopoly.

(7) This box brings together four main contributions to the size of the poor population. To the extent that increased labor productivity leads to workers being made redundant (box 6), deskilling disproportionately sheds skilled labor-power that cannot move into newly-created jobs (box 4), the disruption of the non-capitalist sectors drives producers from the land (box 5), and capitalist competition ruins weaker capitalists (box 2), these contribute to the size of the poor population.

To the extent that poor population continues to be large, it tends to become a permanent fixture. The "hysteresis hypothesis" (cf. Hargreaves-Heap, 1980) indicates that persistently high <u>open</u> unemployment encourages structural unemployment or the size of the working poor to rise, by destroying the value of workers' skills (including job-seeking skills), demoralizing them, and by creating pockets of poverty (as, perhaps, in Thatcher's England). The same may occur due to persistence of "stagnant" employment.

(8) As Marxists have emphasized for generations, open unemployment and a population of employed workers actively wishing to escape the working poor represents competition for employed workers – and a drag on **w**, encouraging it to fall behind the growth of **y**. In line with this, Blanchflower and Oswald's (1994) empirical "wage curve" says that higher unemployment implies lower real wages, *ceteris paribus*.

Their wage curve, however, does not work very well empirically at the macroeconomic level. To these authors only open unemployment threatens employed workers and keeps wages down. However, to the extent that jobs in the stagnant reserve army repre-

sent alternatives to employment in the primary sector, fear of losing jobs and moving into the working poor will moderate wage demands. The authors may have mismeasured the relevant reserve army; alternatively, they may have misestimated the cost of losing one's job (cf. Schor, 1987), of which the unemployment rate is only one determinant.

An key reason why real wages would fall is the weakening of labor's unions and political power. This might be exogenous to the workings of the AGL (i.e., due to internal weaknesses of labor organization), but also results from its internal workings such as constant pressure from bosses (including threats of capital flight) and political efforts in their name (such as President Reagan's firing of the air traffic controllers in 1981).

As workers lose their ability to resist, the actual wage (**w**) falls relative to **w***. The workers' virtuous circle (if it existed) goes into reverse, with permanent depression of **w** leading to falling "moral and historical elements" in subsistence. A downward trend in real wages ensues, with firms such as Wal-Mart taking advantage and spreading secondary labor market labor-relations styles to almost all labor-power markets.

(9) Similarly, competition from the unemployed and other poor workers also encourages greater effort – and labor intensity – by the employed workers, who are afraid of joining the poor.[64] Fear of job loss allows increases in labor productivity resulting from increased mechanization and new management techniques, the normal trend of the capitalist effort to subjugate labor. However, more expensive efforts to raise effort via mechanization may be delayed until necessary.

---

[64] This fear of unemployment or of falling down the status ladder can also encourage the accumulation and use of insider power. This practice is actively discouraged by capitalist managers.

(10) Finally, by formula (1), increased productivity and stagnant real wages encourage the rise in **RSV**. This encourages a greater rate of accumulation and the vicious circle continues.

III. Concluding Remarks.

Marx's AGL describes a capitalism as waging "a one-sided class war," to use a phrase of the former UAW International President Douglas Fraser. This is a massive and constant assault on humanity, on people's old ways of life, on worker-controlled skills and organizations, and on individual autonomy. People are treated as marketed commodities; unlike such products, they suffer. Those who do not dance to capitalism's tune end up falling into the poor reserve army of labor, as do many of those who struggle to participate in the dance but cannot win the winner-take-all "dance contest." A similar analysis of the capitalist juggernaut could, with some modification, be applied to its treatment of nature.

However, Marx's analysis – and even more, that of most of his critics and many of his followers – suffers from a partly-hidden *ceteris paribus* clause: the empirical validity of the AGL, especially in terms of its prediction of a rising **RSV**, depends on the institutional structure capitalism encounters. It only deals with the capitalists' aggregate demand for labor-power, including that for skills. The modern welfare state (or similar) can counteract the workings of the forces highlighted by the AGL, at least in the core rich countries. They might do so again some day for the world as a whole. However, within capitalism, this works only as long as governments honor the system's lust for profits and thus do not trigger the profit squeeze. Even so, individual capitalists' search for profits

will likely undermine any "truce" or "accord" by seeking loopholes and ways to push wages down.

The internal analysis of the AGL shows that much of the "law" works, but it somewhat weak on the theoretical level. Even if the organic composition of capital rises, that does not mean that the aggregate demand of labor-power falls. Further, Marx's own assumptions prevent the steady growth of labor productivity from causing increased unemployment. This indicates the need to link Marx's AGL with crisis theory.

IV. References.

Arrighi, Giovanni. 1990. Marxist Century, American Century: The Making and Remaking of the World Labour Movement. New Left Review. no. 179 (January/February): 29-63.

Baran, Paul. 1957. The Political Economy of Growth. New York: Monthly Review Press.

Baumol, William J. 1983. Marx and the Iron Law of Wages. American Economic Review 73(2) May: 303-8.

Blanchflower, David and Andrew Oswald. 1994. The Wage Curve, Cambridge, MA: MIT Press.

Braverman, Harry. 1974. Labor and Monopoly Capital. New York: Monthly Review Press.

Brems, Hans. 1977.

Edwards, Richard. 1979. Contested Terrain: The Transformation of the Workplace in the Twentieth Century. New York: Basic Books.

Fine, Ben and Laurance Harris. 1979. Re-Reading Capital. New York : Columbia U.P.

DeLong, J. Bradford and Lawrence H. Summers. 1991. Equipment Investment and Economic Growth. Quarterly Journal of Economics. 104(3) August. 445-502.

Devine, James. 1980. Over-Investment and Cyclical Economic Crises. University of California, Berkeley: Ph.D. dissertation.

_____. 1994. "The Causes of the 1929-33 Great Collapse: A Marxian Interpretation," Research in Political Economy (Paul Zarembka, ed.) vol. 14: 119-94.

_____. 2001. "The Cost of Living and Hidden Inflation," Challenge, March-April: 73-84.

Dickens, William T. and Kevin Lang. 1988. The Reemergence of Segmented Labor Market Theory. American Economic Review: Papers and Proceedings, 78(2). (May): 129-134.

Frank, Robert H. and Philip J. Cook. 1995. <u>The Winner-Take-All Society</u>: <u>Why the Few at the Top Get So Much More Than the Rest of Us</u>. New York: Free Press.

Jencks, Christopher *et al*. 1972. <u>Inequality</u>: <u>A Reassessment of the Effect of Family and Schooling in America</u>. New York: Harper & Row.

Goldstein, Jonathan P. 1985. The Cyclical Profit Squeeze: A Marxian Microfoundation. <u>Review of Radical Political Economics</u> 17(1-2) Spring and Summer: 103-28

Goodwin, Richard M. 1967. A Growth Cycle. In E.K. Hunt and Jesse Schwartz, eds. <u>A Critique of Economic Theory</u>. Harmondsworth, UK: Penguin, 1972: 442-9.

Gordon, David M., Richard Edwards, Michael Reich. 1982. <u>Segmented Work, Divided Workers</u>: <u>The Historical Transformation of Labor in the United States</u>. Cambridge: University Press.

Gosselin, Peter G. 2004. If America Is Richer, Why Are Its Families So Much Less Secure? <u>Los Angeles Times</u>. October 10 and December 30, 2004. (See http://www.latimes.com/business/la-fi-riskshift3oct10.story and http://www.latimes.com/business/la-fi-poor12dec12,1,5929236.story.)

Harcourt, Geoffrey Colin 1972. <u>Some Cambridge Controversies in the Theory of Capital</u> Cambridge, U.K.: University Press.

Hargreaves-Heap, Shawn. 1980. Choosing the Wrong 'Natural Rate: Accelerating Inflation or Decelerating Employment and Growth? <u>Economic Journal</u>. Sept.

Harris, Donald J. 1972. On Marx's Scheme of Reproduction and Accumulation. <u>Journal of Political Economy</u>. 80(3) May-June: 505-22.

Heilbroner, Robert L. 1980. <u>Marxism</u>: <u>For and Against</u>. New York: W.W. Norton.

Houston, David. 1992. Is There a New Social Structure of Accumulation? <u>Review of Radical Political Economics</u> 24(2) Summer: 60-67

Howard, Michael C. and John E. King. 1975. <u>The Political Economy of Marx</u>. Burnt Mill, UK: Longman.

Kennedy, Charles. 1964. Induced Bias in Innovation and the Theory of Distribution. <u>Quarterly Journal of Economics</u>. 74: 541-47.

Kaldor, Nicholas and James A. Mirlees. 1962. A New Model of Economic Growth. <u>Review of Economic Studies</u>. 29 (June): 174-192.

Lebowitz, Michael A. 1976. Marx's Falling Rate of Profit: a Dialectical View. <u>Canadian Journal of Economics</u>. 9(2) May.

_____ 1982. The General and Specific in Marx's Theory of Crisis. <u>Studies in Political Economy</u>. 7 (Winter).

_____ 2003. <u>Beyond Capital</u>: <u>Marx's Political Economy of the Working Class</u>. 2nd ed. Houndmills, Basingsoke, Hampshire, UK, & New York, NY: Palgrave Macmillan.

Marx, Karl. 1976. <u>Capital</u>: <u>A Critique of Political Economy</u>, vol. I. Ben Fowkes, transl. London, U.K.: Penguin.

_____. 1981. <u>Capital</u>: <u>A Critique of Political Economy</u>, vol. III. David Fernbach, transl. London, U.K.: Penguin.

_____ and Frederick Engels. 1848. Manifesto of the Communist Party. In Robert C. Tucker, ed. <u>The Marx-Engels Reader</u>. 2nd ed. New York: Norton, 469-500.

Macdougall, A. Kent. 1997. Pandemic Immiseration. <u>Monthly Review</u>. 49(2) June 31-5.

McConnell, Campbell R. and Stanley L. Brue. 2005. <u>Microeconomics</u>: <u>Principles</u>, <u>Problems</u>, <u>and Policies</u>. New York: McGraw-Hill/Irwin.

Moseley, Fred. "Marx's Economic Theory: True or False? A Marxian Response to Blaug's Appraisal." In Fred Moseley, ed. 1995. <u>Heterodox Economic Theories: True or False?</u> Aldershot, UK & Brookfield, VT.: E. Elgar.

Nordhaus, William. 1973. Some Skeptical Thoughts on the Theory of Induced Innovation. <u>Quarterly Journal of Economics</u>. 87(2) May: 208-19

Perelman, Michael. 1999. <u>The Natural Instability of Markets</u>: <u>Expectations</u>, <u>Increasing Returns</u>, <u>and the Collapse of Capitalism.</u> New York: St. Martin's Press.

Robinson, Joan. 1966. <u>An Essay on Marxian Economics</u>. 2nd ed. London: St. Martin's.

Rowthorn, Bob. 1979. Marx's Theory of Wages. In his <u>Capitalism</u>, <u>Conflict</u>, <u>and Inflation</u>. London: Lawrence & Wishart, 1980.

Schor, Juliet. 1987. Class Struggle and the Macroeconomy: The Cost of Job Loss. In Robert Cherry *et al*., eds. <u>The Imperiled Economy</u>, <u>Book I</u>: <u>Macroeconomics from a Left Perspective</u>. New York: URPE.

Sherman, Howard J. 1991. <u>The Business Cycle</u>: <u>Growth and Crisis Under Capitalism</u>. Princeton U.P.

Smith, Adam. 1776. <u>The Wealth of Nations</u>. Andrew Skinner, ed. Harmondsworth, UK: Penguin, 1982.

Sowell, Thomas. 1960. Marx's "Increasing Misery" Doctrine. <u>American Economic Review</u>. 50 March: 111-20.

_____ 1985. <u>Marxism</u>: <u>Philosophy and Economics</u>. New York: Thomas Morrow (Quill).

Sweezy, Paul M. 1970. <u>The Theory of Capitalist Development</u>: <u>Principles of Marxian Political Economy</u>. New York: Modern Reader.

Vernon, Raymond. 1966. "International Investment and International Trade in the Product Cycle," <u>Quarterly Journal of Economics</u>, 80 (May), 190-207.

Weisskopf, Thomas. 1981. "The Current Economic Crisis in Historical Perspective," <u>Socialist Review</u>, no. 57 May-June, pp. 9-53.

Wolfson, Murray. 1966. <u>A Reappraisal of Marxian Economics</u>. Baltimore, MD: Penguin.