

A Radical ‘Econ 101’ Principles of Macroeconomics Course

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Abstract *This is an introductory macroeconomics course (typically a required ‘Econ 101’) that will work for most students that offers a genuinely alternative approach to formal economics at the introductory level that is more than just a set of critiques of the standard Neoclassical curriculum. In addition to a review of ‘standard’ neoclassical macroeconomic topics, this course includes discussions of: a) Modes of production including capitalism and the roles of class, power, and democracy in economic, social, and political evolution within classical (Marxist) and modern (Marx-Habermas) historical materialist perspectives, b) Marx and Smith and classical political economic and Neoclassical (NC) methodologies and underlying value systems, c) A ‘Demand and Cost Model’ (DCM) that is more realistic for most of the production economy than the ‘Supply and Demand Model’ (SDM), d) Negative and positive applications of Modern Monetary Theory (MMT) in expanding public money in recent decades, e) Aggregate Demand (AD) and Aggregate Cost (AC) models that are more realistic than the NC AD/AS formulation, f) Hudson and Keen Neo-Rentierist, more realistic, extensions of standard NC based NIPA (National Income and Product Accounts) accounting, g) A Kaleckian class-based macroeconomic model that is more realistic than the simple Keynesian model, and the relationship of class-based Post-Keynesian analysis to the Friedman-Romer debate over the 2016 Sanders economic program, h) Baiman proves that the Ricardian model is overdetermined - demonstrating that managed trade is necessary for realizing comparative advantages and that the free trade doctrine is generally mathematically infeasible for any exchange-rate based trade model with $n > 2$ countries demonstrating that the free trade doctrine is mathematically infeasible for any exchange rate based global trade model with $n > 2$ countries regardless of other assumptions, and an outline of progressive trade principles (topic 8), and i) a discussion of climate change policy underlining the need for urgent direct climate cooling to give time to transition to and develop a global sustainable ‘industrial farmer cultivator’ civilization and regenerate nature (topic 8), and other radical economics topics.*

Introduction

Econ 101 or ‘Principles of Macroeconomics’ is without doubt the most widely taught course in economics, and for many, perhaps most, students with any formal economics education in High School or College, the only and last economics course that they will take. It is also (along with Econ 102 Principles of Microeconomics) the most highly ‘corporatized’ in the sense of publishers investing vast sums of money in ‘value-added’ bells and whistles including power points, instructors’ guides,

test banks, student guides, videos, games, and other teaching aides, that make these, invariably Neoclassical Econ 101 curricula, almost impossible to resist.

The overwhelming pressure to use these attractive and well-supported texts is increased by the fact that this is the core ‘bread and butter’ course that many if not most economics instructors spend the largest share of their teaching time on. Typically, given current understandable student concerns over their future economic security, ECON 101 (and to a lesser extent ECON 102 Principles of Microeconomics) are among the more demanded introductory courses in the undergraduate curriculum. Students have come to expect very attractive, well-written, economics intro courses that are well-resourced with polished power-points and abundant on-line content, so that student evaluations for instructors who do not adapt one of these popular Econ 101 ‘packages’ may be significantly lower than they would be otherwise. These factors make teaching progressive macroeconomic principles a daunting task, particularly for a non-tenured beginning instructor.

In the following, I will attempt to share an approach that I developed after years of effort to make this work.¹ In my initial effort, in the late 1990s and early 2000s students, especially my mostly business majors taking a required economics intro course, were generally more conservative and less open to fundamental critiques of capitalism than was the case during my subsequent 2013 – 2023 attempt. However, in the later part of this period, following the Sander’s democratic socialist upending of the Democratic Party in 2016 and subsequent election of Donald Trump, students were much more open to fundamental critiques of NC economic ideology. I also was of course more experienced and ironically my new institution and department, the business school of an historically catholic university, more supportive of my efforts to teach *practically relevant* introductory economics courses (I also taught intro microeconomics classes that emphasized practical microeconomic applications to business using a similar Radical/Post-Keynesian approach).

This curriculum is an attempt to facilitate the teaching of a radical introductory macroeconomics course that will work for most students and that is more than just a set of critiques of the standard Neoclassical curriculum, but that I believe offers a genuinely alternative approach to formal economics at the introductory level. My hope is that it offers a midpoint between progressive economics curricula that is *more* radical than most ‘progressive but mainstream’ principles economics curricula as it includes *radical analytical* models (or memes) not included in these courses *in addition* to the pervasive (and implicitly required in most departments) Neoclassical models (or memes), but *less* radical than economics curricula used for specifically designated ‘radical economics’ or ‘political economy’ courses that delve more deeply into Marxist, Post Keynesian, Feminist etc. economic schools of thought but generally do not comprehensively cover the analytical core of mainstream NC curriculum.

For example, the pervasive and pernicious influence of the Walrasian “supply and demand” model (or ‘meme’) *and* the existence of more realistic “demand and cost” alternatives, for both the micro and macro economy is (as far as I know) almost never raised in progressive economics curricula (Ridell et al. 2011; Goodwin et al. 2023; Bowles et al. 2024; Dorman 2014).² Similarly, critiques of the limits and mismeasurements of standard National Income and Product Accounts (NIPA) regarding inequality, leisure and the environment and gender are common (even in mainstream

¹I am indebted to Tom Riddell and Geoffrey Schneider for sending me their course power point that formed the original draft of the power point from which a large share of the language for some parts of this course (including topic 1) are derived.

²Walrasian static equilibrium approaches are of course critiqued in many progressive texts, particularly in the context of more evolutionary and dynamic ways of thinking about the economy, but these texts still highlight the SDM as a core way to think about the economy without offering any alternative model or meme (Bowles et al. (2024).

texts). However, pointing out: that entire sectors of the economy (FIRE) have arbitrarily been labeled 'productive', the impacts of private debt and capital gains (not measured in standard NIPA accounts) on the macroeconomy, the class basis of Keleckian but not Keynesian economics, and the mathematical infeasibility of 'free trade', is again (to my knowledge) never discussed in standard texts.

On the other hand, exclusively offering introductory versions of Marxist or Post-Keynesian economics (Bowels et al. 2005; Sherman and Meeropol 2014; Lavoie 2009; Rochon and Rossi 2021) or focusing solely on the differing *policy implications* of Neoclassical versus Radical or Heterodox economics (Schneider 2023), though valuable for economics majors, is, in my view, not appropriate for a radical 'Econ 101' course aimed at replacing the standard 'Econ 101' course that is often the last and only formal exposure to economics that most will ever receive.

The problem is that these approaches elide the need to offer analytical counters to the Neoclassical models (and memes) presented in most intro courses that do not rely strictly on Marxist or classical political economy (Baiman 2006;2020), but still provide an underlying values-based (or moral) and class-based introductory analytical framework for a radical and progressive economic theory and policy.³

Finally, I think that the course was successful as evidenced by the positive feedback that I have received from numerous students.⁴

For example, I received the following unsolicited comments from students after they had taken the course and received their grades:

"I took the course ... with ... for the past 8 weeks and felt compelled to send you a note. I can feel the passion for your work in the course you have built and the texts you have written. It was so refreshing to read your perspective on economics and society in general; it gives me hope that there can be a better future for us all. It has opened my eyes to the larger picture of the economic system that has been created (and that we are arguably suffering from on an individual and global scale) and how it could be different. I did not have as much time as I would have liked to devote during the course, but fully intend on reading more for leisure."

and

"Thank you so much professor. Thanks for believing in me and pushing me to grind harder. I walked away with a lot more than I expected with this class."

Solicited (but voluntary qualitative) positive feedback from Individual Development and Educational Assessment (IDEA) student evaluation surveys:

"Differing view of economic thought is by the professor. Encourages us to think and come up with our own thoughts.

In-depth analysis about how our economy functions. Spoke about a variety of theories.

Explored non-traditional economics ideas, evoked additional thought processes."

³Astute readers will notice that though my course was largely based on Baiman (2016, parts I-II), it included significant borrowings from Ridell et al. (2011) and Bowles et al. (2005s, thus 'splitting the middle' between what I have labeled 'progressive' and 'radical' texts.

⁴I am noting this as I think it is important to establish that the course was successfully taught as a substitute 'Econ 101' course for many years in a non-elite institution. However, I believe that 'what is taught' (i.e. the *content* of a course) is fundamentally what makes a course 'radical' as many different curricula could be produced to be attractive to students and 'taught well'.

And positive median outcomes of comprehensive summaries of student evaluations of the course over many years (done for tenure review) that ranged, on an ordinal scale of 1-5, from 4 to 5.

Many intro courses are short and getting shorter as competition increases between institutions to offer expedited on-line MBAs and multiple 'flexible scheduling options for undergrads and grads alike. It was therefore necessary to design a course that could be taught, if necessary, in (a minimum) of eight 3-hour sessions for an accelerated MBA or undergraduate class, but that could also be covered more slowly and deliberately in a standard sixteen-week undergraduate course. This increasing brevity of many intro courses makes it, of course, even more of a challenge to try to teach a pluralistic course that includes the basics of the Neoclassical curriculum but also addresses radical economic alternatives, and provides some history of thought, and philosophical and methodological background, particularly related to the role of values in social science.

The curriculum below, nonetheless, attempts to do all of this (at an introductory level) in a minimum of eight classes, and two class length on-line (proctored) exams (midterm and final), designated as 'required homework' - in addition to regular homework assignments as well as a short (five page) final paper and an in-class group exercise. However, as this is a lot to cover in an eight-week class, I would recommend a standard 16-week semester format for this course for most students, with shorter options restricted to graduate (in my case MBA and MPH) students, and self-selected high-performing undergraduates.

The eight sessions (topics) of the course are the following:

1. Economic Methodologies and Economic Systems
2. History of Economic Thought, Modern Economic History, and Economics and Values
3. 'Demand and Cost' and 'Supply and Demand'
4. Measuring Employment, Inflation and Production
5. Classical and Keynesian Macroeconomics and Fiscal Policy
6. Money and Monetary Policy
7. Growth and Stabilization, and Heterodox Macroeconomics
8. International Trade and Finance, and the Climate Crisis

In *addition* to a review of 'standard' neoclassical macroeconomic topics, these topics include: a) Modes of production including capitalism and the roles of class, power, and democracy in economic, social, and political evolution within classical (Marxist) and modern (Marx-Habermas) historical materialist perspectives (topic 1), b) Marx and Smith and classical political economic and Neoclassical (NC) methodologies and underlying value systems (topic 2), c) A 'Demand and Cost Model' (DCM) that is more realistic for most of the production economy than the 'Supply and Demand Model' (SDM) (topic 3), d) Negative and positive applications of Modern Monetary Theory (MMT) in expanding public money in recent decades (topic 6), e) Aggregate Demand (AD) and Aggregate Cost (AC) models that are more realistic than the NC AD/AS formulation (topic 7), f) A Kaleckian class-based macroeconomic model that is more realistic than the simple Keynesian model, and the relationship of class-based Post-Keynesian analysis to the Friedman-Romer debate over the 2016 Sanders economic program (topic 7), g) Hudson and Keen Neo-Rentierist, more realistic, extensions of standard NC based NIPA (National Income and Product Accounts) accounting (topic 7), h) Godley macroeconomic deficit linkage insights (topic 7), i) Baiman on the increasingly relevance of rentierism in capitalist economies like the US (topic 7), j) Baiman proofs that the due to its

overdetermination the Ricardian comparative advantage model demonstrates that *managed trade* not *free trade* is necessary for the realization of comparative advantage demonstrating that the free trade doctrine is mathematically infeasible for any exchange rate based global trade model with $n > 2$ countries regardless of other assumptions, and an outline of *progressive trade principles* (topic 8), and k) a discussion of climate change policy underlining the need for urgent direct climate cooling to give time to transition to and develop a global sustainable ‘industrial farmer cultivator’ civilization and regenerate nature (topic 8), and other radical economics topics.⁵

The following is an outline of the deviations of this course from the standard NC curriculum within each of these topical areas. The standard NC curriculum is also covered in the course but will not be discussed in this paper. The Appendix includes links to further discussions of topics 3, 6 and 8. A sample of particularly interesting exercises used in the course are available in the Appendix, and a large volume of course materials including syllabi, power points⁶, problems and solutions, and video links can be accessed here: <https://doi.org/10.17632/7hxn4xnrh.1> (Baiman 2024).⁷

1. Economic Methodologies and Economic Systems

This topic is composed of the following sections:

- a) What is Mainstream, or ‘Neoclassical’ (NC) Economics?
- b) What is ‘Radical’, or Post-Keynesian (PK), Political Economy?
- c) Conservative, Liberal, and Radical Economic Policy,
- d) Economic Systems,
- e) Feudalism,
- f) From Feudalism to Capitalism,
- g) Mercantilism and Emergent Capitalisms

Of these the general methodological and economic systems discussions (a-b and d) set the stage for the course when compared to the generally ahistorical and mono-methodological, or doctrinaire, NC introductory content of most economics principles courses. I leave it to RRPE readers to fill-in the conventional content for the other sub-topics.⁸

For a good review of these topics see (Riddell et al. 2002 Chap. 1-2, Bowles et al. 2005 Chap. 3, Baiman 2016 Chap. 1).

⁵This menu of possible topics could of course be expanded, depending on time and student interest, to include sections on Feminist, Institutional, Regional (or Space) economics, etc. These are the topics that I thought were important and least likely to be discussed in other courses, that I was able to squeeze in given the constraints of teaching an introductory course.

⁶I am indebted to Tom Riddell and Geoffrey Schneider for sending me their course power point that formed the original draft of the power point from which a large share of the language for some parts of this course (including topic 1) are derived.

⁷This paper focuses on content as believe that this that this is the major problem with current economics instruction. In my view discussions of ‘pedagogy’ or ‘how to teach’ (as opposed to ‘what is taught’) can generally be applied to varied content, not specific to radical economics, and is in any case beyond the scope of this paper.

⁸Walrasian static equilibrium approaches are of course critiqued in many progressive texts, particularly in the context of more evolutionary and dynamic ways of thinking about the economy, but these texts still highlight the SDM as a core way to think about the economy without offering any alternative model or meme (Bowles et al. (2024).

Neoclassical (NC) economics is rooted in Classical Liberal political theory that is focused on the problem of government tyranny. According to this theory, as governments have a monopoly on the use of force and coercive social power, they are *public* and need to be made *democratically* accountable, but the economy is *private* as it is a realm of *free and equal exchange* decisions by private parties that have *no consequential social power* (Bowles et al. 2005). In NC Economics no social power is exercised in labor and capital ‘markets’ as the *labor commodity proposition* assumes that renting labor is just like buying and selling apples, and the *asset neutrality* proposition assumes that it makes no difference who hires whom (Bowles and Gintis 1987). In NC economics capitalists and workers are simply reacting to outcomes determined by *the market* that is a product of the *objective* forces of: *technology, biology, and individual choice* (Marglin 1984).

1. In the NC view economics should focus on market efficiency. Issues of equity (or distribution) are values-based issues that pertain to the realm of *politics* and not *economics*. Once an initial (and target) distribution has been set by the political system, the role of economics is to minimize ‘dead weight’ loss so that social welfare can be improved without harming anyone. Neoclassical (mainstream) economists view the economy as a means to produce and distribute goods in the face of scarcity. Objective ‘Scarcity’ thus is the ‘core’ problem of the economy, so that the economy is a way to organize and coordinate the (Schiller and Gebhardt 2013 p. 3):

1. ‘... three core choices that confront every nation:

- a) *What* to produce with our limited resources.
- b) *How* to produce the goods and services we select.
- c) *For whom* the goods and services are produced – that is who should > get them.’

Similarly, according to Lionel Robinson (1932): ‘Economics is the science which studies human behavior as a relationship between ends and scarce means which have alternative uses.’

NC economic theory focuses on discovering ‘what is’ as though the economy is a component of the natural world. It tries to discover (more or less) constant relationships between economic variables and establish constant relationships allows economists to make forecasts about the future. But this can be very difficult given the evolutionary character of the economy. For example, according to Milton Friedman’s ‘Positive Economics’ doctrine, a foundational discussion of NC economic methodology, economists should (Friedman, 1966):

- a) Assume simple underlying principles for human behavior (like underlying ‘laws of nature’), for example that people are rational, calculating, and fully informed,
- b) Identify key economic concepts and variables, like prices, incomes, and consumer confidence; and construct hypotheses, or models, that will predict economic behavior, and then,
- c) Test the theory based on real world experiences.

Based on this doctrine, predictive value is what counts, not realism of assumptions.

See topic 1 problems 1, 3 - 5 in the Appendix.

1.b) What is ‘Radical’, or Post-Keynesian (PK), Political Economy?

In the view of ‘radical’ or ‘political’ economists (who in the US include left Post-Keynesian, Marxist, Institutionalist and other Heterodox economists): culture, morality and ideology affect economic theory and behavior. For example, radical economists would argue that ‘conspicuous consumption’

is not rational but rather driven by culture and ideology. They point out that social scientists cannot generally construct *controlled experiments* as the economic environment constantly changes. They also argue that economics is a *moral science* meaning that economists should study *both* positive and normative issues. They should not just study ‘what is’ but should also advocate for economic arrangements that *improve* people’s lives.

Broadly speaking, radical economists view *economic Systems* as ways of organizing human labor. For example, unlike the common ‘what, how, and for whom’ NC economics framing, in their radical economics text, Bowles et al. (20025, p 52) assert that:

‘Economic systems are:’...*all ways of organizing the human labor needed in every society to produce the goods and services that support life.* No matter what type of society it is situated in, an economic system will determine *what* work is done, *how* it is done, and by *whom*, and to *whom* the resulting products are distributed. Economic systems are *relationships among people*.’

Most importantly, radical economists view capitalist economies as a *class system* that is based on *power*. In their view the labor ‘market’ is not pure voluntary exchange but rather a *structure of command* and *system of control* for the extraction of profits for capital. Radicals claim that capital exercises enormous social power that NC economic theory tries to make *invisible*.

Bowles et al. (2005) offer a schematic way to describe the differences between NC and Radical economics as consisting of ‘three dimensions’:

- a) ‘Horizontal’ dimension of *competition* emphasized by NC economics
- b) ‘Vertical’ dimension of *command* emphasized by Radical/PK economics.
- c) ‘Time’ dimension of *change* emphasized by Radical/PK economics.

More broadly, in the view of radical economists, NC Economics hides its role as an *ideological legitimation theory* for capitalism by posing as objective natural science solely concerned about efficiency. Whereas, in general, radical economists recognize the values basis of economic theory and believe that economics should be directed at improving human well-being based on widely shared universal values of broadly expanding economic opportunity and sustainability.

See topic 1 questions in the Appendix.

1.d) Economic Systems

The notion of an ‘economic system’ is based on Marx’s theory of historical materialism (Marx and Engles 1973). The premise of this theory is that human life is largely shaped by social systems that reflect historically evolved economic systems. We spend most of our lives working and sustenance is the most immediate necessity, so economic relationships have a huge influence on people and society.

The *economic system* (what Marx and Engels called a ‘mode of production’) is a ‘mode of life’ that fundamentally shapes what our lives are like. All economic systems are based on a set of underlying social and physical infrastructure including the legal system, cultural beliefs, norms and values, resource base and technology. These are patterns of behavior and organizations that form the essential structures of society.

With regard to the physical and economic aspect of an economic system, the *economic surplus* is composed of currently produced goods and services that are not necessary to sustain current

production. A society's surplus is the primary pool from which it can invest in capital goods, new ventures, and therefore its primary source of economic growth and development.

Economic systems differ with regards to the production, control, and use of the surplus. The surplus is historically produced by one class and appropriated and used by another class. Slavery, feudalism, and capitalism are economic systems where this occurs. The most recent evolution of economic systems has been from Feudalism to Capitalism.

In addition to this standard Marxist historical materialist approach, some radical economists support Habermas' modern reconstruction of 'historical materialism' that highlights the importance and difficulty of *social* evolution toward *democracy*, in addition to *economic* evolution toward *capitalism*, both hopefully progressing toward *democratic socialism* (Habermas 1979).

See topic 1 problem 6 in the Appendix.

2. History of Economic Thought, Modern Economic History, and Economics and Values

This topic is composed of the following sections:

- a) Economics and Values,
- b) Adam Smith,
- c) Karl Marx,
- d) The Rise and Fall of Laissez-Faire in the U.S. Economy, and the > Current Climate Crisis,
- e) Group Exercise: Design Your Own Utopia.

1.

Of these general methodological and economic systems discussions, I will summarize a) and e). For more in-depth discussion of these sub-topics see Baiman (2016 Chap. 1-3 and 11) and Bowles et al. (2003 Chap. 3). For good reviews of b) – d) see Riddell et al. (2002 Chap. 1), Bowles et al. (2005 Chap. 3 and 7), and Baiman (2022). The climate crisis is addressed in the course in greater depth in Topic 8.

2.

2.a) Economics and Values

Can social *science* be 'value-free'? Are there universal values and can they be reasonably debated based on empirical evidence? Can economics be value-free? Should it? Are there economic schools of thought that are openly values-based? Is there a choice? Isn't it time to expose the value-neutral pretense of mainstream or Neoclassical (NC) Economics?

In the NC View economics is *separable* from power, politics, and values. The NC 'wall of separation' of values, or politics, from economics, is premised on the assumption that the economy is fundamentally a realm of *free and voluntary equal exchanges* among individuals that is *separable* from the realm of government or politics. Politics, in the NC view, involves coercion and in particular the use of state power and direct bureaucratic authority to implement social choice.

Is there a plurality of *equally* valid economic theories?

Many social scientists accept that social theory will inevitably include values-based ideological constructions that are most relevant to those who share their values and view school of thought in a pluralistic fashion as reflecting one of many different theories of society that are all *equally* valid but based on different sets of values. Many non-NC economists believe this, or profess to, as well.

Or are economic theories implicitly based on universal values that can themselves be discussed and contested along with theories?

Many heterodox or ‘radical’ economists (including myself) hold this view of values-based social sciences that attempt to scientifically (with evidence and reasoned argument) justify *both* their theoretical constructions and policy recommendations, *and* their values. In this view, for example, as is noted above, NC economics is largely based on classical liberal ideology, though instead of acknowledging this and attempting to justify it, it hides this from view under the pretense of being ‘value free’ and ‘objective’.

Based on this view, radical’ or ‘heterodox’ economics should acknowledge its value basis, not as one of many possible approaches, but as the most valid (to be argued for, not ideologically imposed) approach that best conforms to broadly-based universal values (Baiman 2016 Chap. 1-2).

Bowles et al. (2005 Chap. 3) again offer a simplified but useful schema with which to think about the differences between the values underlying radical economics, or political economy, and NC economics.

Based on this typology the three major values in political economy are:

- a) *Efficiency*: Real (not financial) labor and other resources in the economic system are used to enhance human well-being.
- b) *Fairness*: People suffer the burdens and enjoy the benefits of the economic system equitably.
- c) *Democracy*: The exercise of power in the economic system is accountable to those affected by it through: elections with independent media, right to assembly, safeguards of minority rights, and minimal social equity and economic security so that people are able to politically participate.

Following this schema, the major goal of NC economics is (a very narrow ‘Pareto Optimal’) version of efficiency, whereas the goals of radical economics also include fairness and democracy.

See topic 2 problems 1-4 in the Appendix.

2.d) Group Exercise: Design Your Own Utopia⁹

Economic thinking reflects underlying values. The Design Your Own Utopia group exercise highlights the underlying links between values and economic policy (Baiman 2016 Chap 5).¹⁰ The exercise involves dividing the class into small groups and asking each group to imagine that they are elected representatives of a committee charged with allocating economic resources to working adults in their society in a way that is as fair to individuals, and as beneficial to society, as possible,

⁹Astute readers will notice that though my course was largely based on Baiman (2016, parts I-II), it included significant borrowings from Ridell et al. (2011) and Bowles et al. (2005s, thus ‘splitting the middle’ between what I have labeled ‘progressive’ and ‘radical’ texts.

¹⁰I am indebted to Mehrene Larudee and her cohort of U. Mass. Economics graduate students who authored the Instructor’s Guide to the first edition of *Understanding Capitalism; Competition, Command and Change* (Bowles and Edwards 1985) in which I found this exercise.

and assume that each committee is *omnipotent* in that sense that they have data that accurately measures the level of each of the criteria below for each working adult.

The list of measured criteria that each group may use is as follows:

- a) The value of the services or products that they produced.
- b) The amount of time and effort they spent.
- c) Their level of need.
- d) The value of their property or wealth.
- e) The social status of their parents (for example: ‘caste’ or ‘nobility’ level; or racial or ethnic background if this is tied to social status.)
- f) How much they have received as a result of luck.

The sum of the *weights* that they may apply to these criteria must equal a hundred. Each group is thus charged with making a *collective* choice to determine the weight to apply to each criterion. Groups should refrain from, for example, averaging independent individual choices as the group will need to nominate a spokesperson who will report the group’s decisions and reasoning to the class. Each group therefore needs to have justifications for its choices that reflect a consensus, or at least majority, opinion of the group if the group is unable to reach consensus (if time permit group ‘minority opinions’ may also be ‘reported to the whole’).

The ‘Resource Allocation Weights’ table that each group will separately and independently complete after debate and discussion, and report to the class and justify, will thus look like this:

- a) Inherited Social Status _____
- b) Luck _____
- c) Need _____
- d) Productivity _____
- e) Property or Wealth _____
- f) Time or Effort _____

Sum of Weights: 100%

After the results have been reported and briefly justified, the instructor will lead a class discussion of the outcomes as will likely proceed as described in (Baiman 2016 Chap. 11). Per the discussion Baiman (2016 Chap. 11), I recommend that, towards the end of this class discussion, instructors explain the relevance of basic values to opinions regarding the role of *social* versus *individual* choice, and the size of the public (or ‘publicly funded’) sector in the economy, using the dichotomy between these two well-known capitalist and democratic socialist *idealized* economic distribution aspirations:

- ‘To each according to what he and the instruments he owns produces.’ (Friedman 1962)
- ‘From each according to his ability, to each according to his need.’ (Marx 1975).

Instructors will note that some of the most critical choices in the economy affect the especially long-term, dynamic trajectory of economic growth and development, and that ideally this would be factored into this seemingly *static* resource allocation exercise (Baiman 2016 Chap. 11).

3. ‘Supply and Demand’ versus ‘Demand and Cost’

This topic has three sections:

- a) The Production Possibilities Frontier,
- b) The (Mostly Ideological) Supply and Demand Model (SDM),
- c) The (Mostly Real) Demand and Cost Model (DCM).

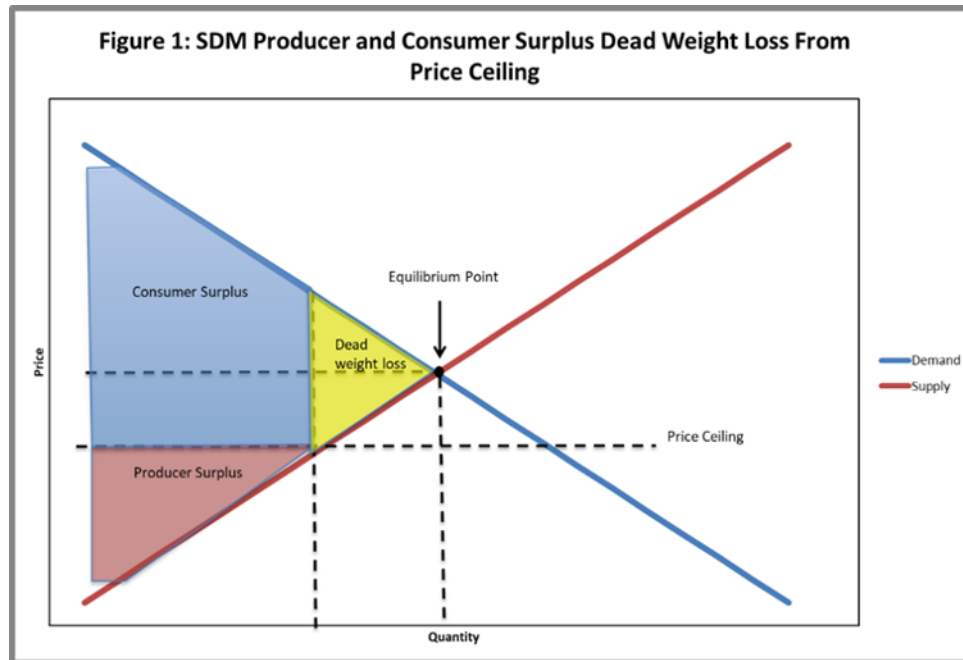
As the first two are standard fare (and as argued below the SDM is a core meme of introductory NC economic ideology), I will restrict my comments below to the ideological aspects of b) and to a review of c). For a full review of the alternative analytics and policy implications of c) see Baiman (2016 Chap. 5; 2020; 2019). The full course also includes a complete review of both a) and b).

3.b) The ideology behind the SDM

Given exogenous *technological* and *natural* conditions like population growth, the SDM model shows that *individual choice* causes capitalist market economies to gravitate toward a *market clearing equilibrium* that is:

- a) *Uniquely and precisely determined,*
- b) *Mostly price adjustment resulting in stable equilibrium,*
- c) *Social welfare maximizing.*

- a) The SDM equilibrium is objective and uniquely determined because SDM curves are generated by ‘Objective’ market forces produced by *aggregations of individual agent choices* in such a way that no *individual* buyer or seller can significantly affect overall supply or demand curves. Therefore, ‘Free Market’ equilibrium prices and quantities are determined by *nature, technology*, and (almost as sacrosanct in liberal political thinking) ‘free and voluntary’ *individual agent choices* in their own self-interest (Marglin 1984). Thus, the SDM thus provides a scientific and objective solution to the central economic problem of ‘allocating scarce means to competing ends’ that is *free and fair* as it properly reflects ‘consumer sovereignty’ and ‘exogenous’ conditions like nature and technology.
- b) The SDM equilibrium is stable and self-correcting because in the absence of supply or demand curve shifts, any movement away from equilibrium price or quantity will automatically generate price changes (or ‘price signals’) that will induce individual producers and consumers to make choices based on their own self-interest that will return the system to (the prior existing) equilibrium. The SDM model thus includes a *dynamic self-adjustment mechanism* that moves the system toward its unique equilibrium position and sustains this equilibrium once it is obtained.
- c) The SDM equilibrium is social welfare maximizing, or optimal, because the SDM ‘*maximizes social welfare*’ (see figure 1). The SDM thus provides ‘*objective scientific*’ support for the cornerstone ideology of NC economics: that competitive markets will cause actions motivated by private self-interest to serve the public good. It therefore shows that *perfectly competitive free markets are optimally socially efficient*.



3.c) The (Mostly Real) Demand and Cost Model

The supply curve does not exist and hence should more accurately be labeled a ‘ghost curve’. Ask a businessperson to tell you *how much they are going to produce at a given price* without any information on demand conditions. Most likely they will look at you cock-eyed as this is an *unanswerable question* without some knowledge about demand conditions.

Rather, price and quantity supplied depends on *demand and cost*. A more realistic, Post Keynesian’ and ‘Neo-Marxist’ way to describe short-run price and quantity behavior is that under normal conditions: production *prices are fairly stable*, quantity supplied is determined by demand, price is determined by ‘mark-up’ over costs the size of which depends on business strategy and competitive conditions, and average (per unit) costs are constant or declining.

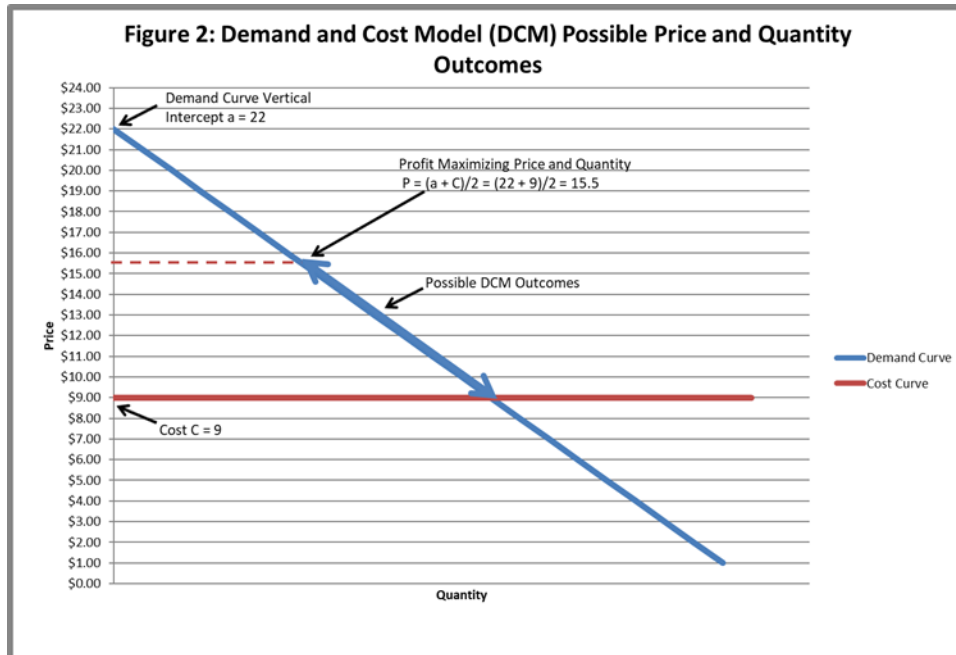
This is because empirical data suggests that in the short-run *quantity* changes are much more likely than *price* changes. For example, in a survey of a representative sample of 200 non-agricultural firms in the U.S. Blinder et. al. (1998) found that almost all of the firms in the sample were ‘price-makers’ (as in the DCM) rather than ‘price takers’ (as in the SDM). And though prices were periodically reviewed they were not determined instantaneously by supply and demand as:

‘...the median number of price changes for a typical product in a typical year is just 1.4 and almost half of all prices change no more than once annually.’

Thus, under normal conditions, *quantity* adjustment is more frequent than *price* adjustment in the economy. Quantity supplied adjusts to demand. There is generally ‘slack’ or ‘underutilized capacity’ in the economy. For example, in Dec. 2023 U.S. capacity utilization was 78.6% (FED 2024). Except during war times, the US economy is almost never at full employment (conventionally pegged at a 2% ‘frictional’ unemployment rate) (BLS 2024). Demand is thus a greater problem than ‘scarcity’ or ‘opportunity costs’.

This suggests that a schematic ‘Demand and Cost’ short-run representation that assumes constant costs and – as in the SDM – a linear downward sloping demand curve, as shown in figure 2, is

generally more realistic than the standard SDM upward sloping ‘supply curve’ and downward sloping ‘demand curve’ representation.



For simplicity (similar to SDM simplifications), the DCM assumes constant average costs and a linear downward sloping demand curve so that the demand curve may be specified as:

$$P = a - bQ$$

Where P is price, Q quantity demanded, and a and b are positive parameters; and average costs are constant equal to c so that ‘Average Variable Cost’ (AVC) equals ‘Marginal Cost’ (MC) and both have constant positive value c :

$$AVC = MC = c$$

Then for a profit maximizing monopolist:

$$P = (a + c) / 2$$

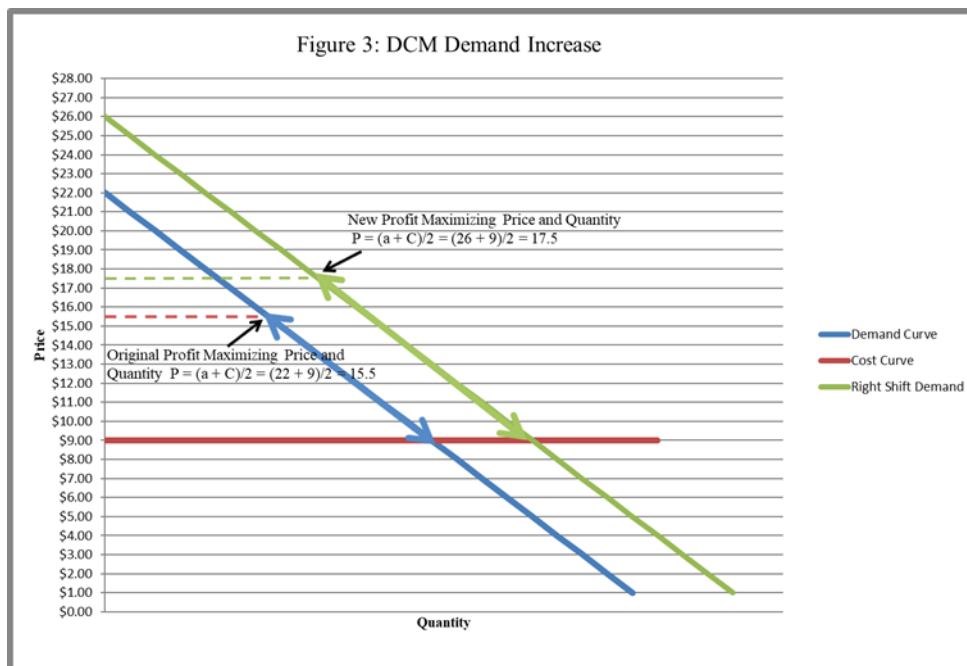
And this will also be an *upper bound* on prices for firms facing competition, or firms that do not have a short-term profit maximization strategy (Baiman 2016 Chap. 5). I explain this intuitively to students as the point where increasing the price will result in a profit loss that is proportionally greater than the resulting revenue increase and ask most students to accept this on faith until they have taken Principles of Microeconomics.¹¹

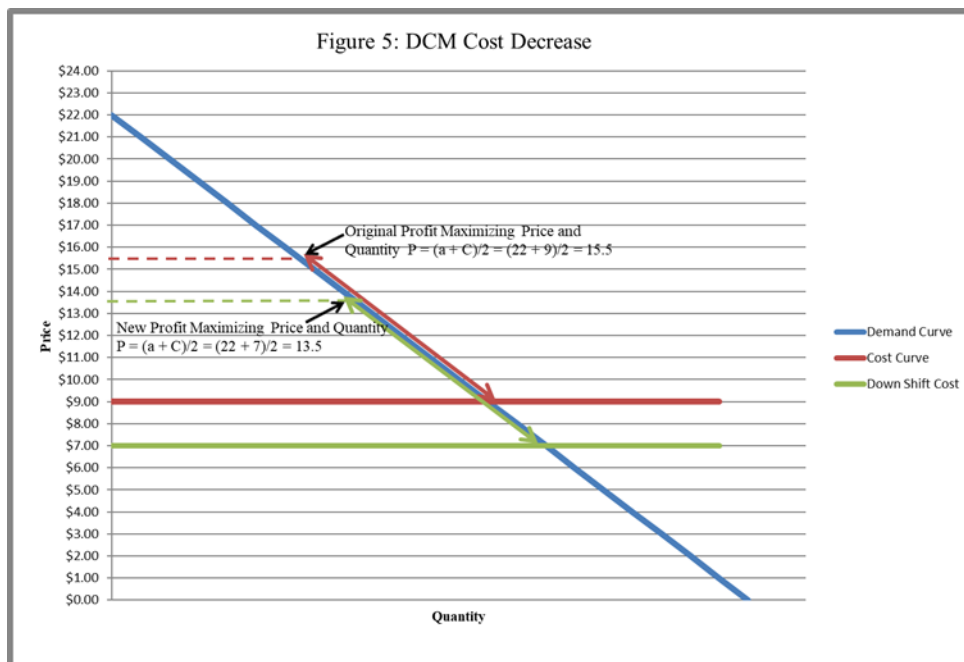
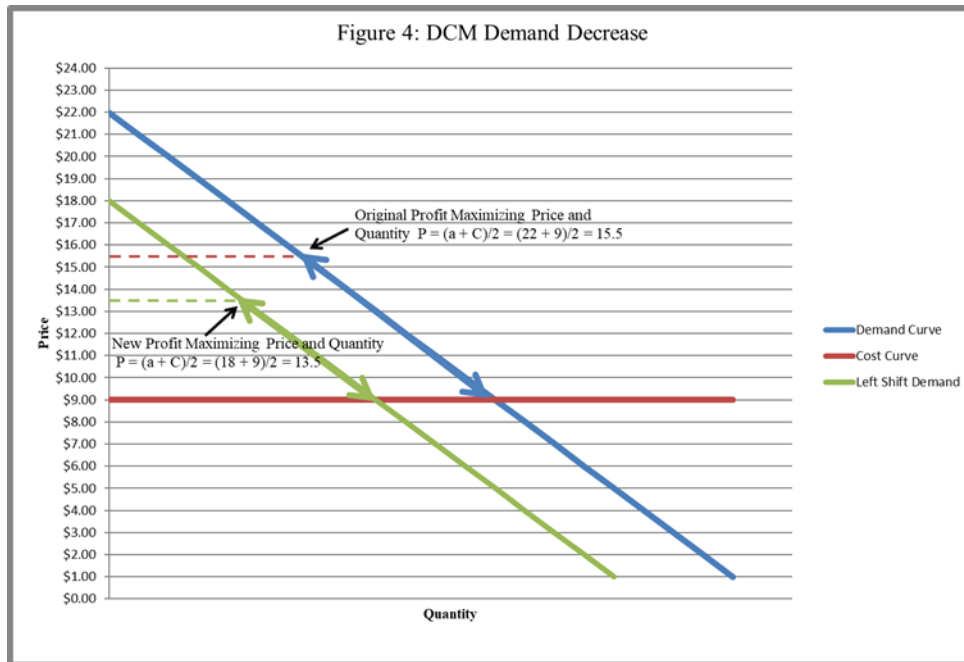
The DCM is a much better approximation of economic *reality* for markets involving *produced* goods and services. Whereas financial, natural resource, and other markets that are based on *barter* rather

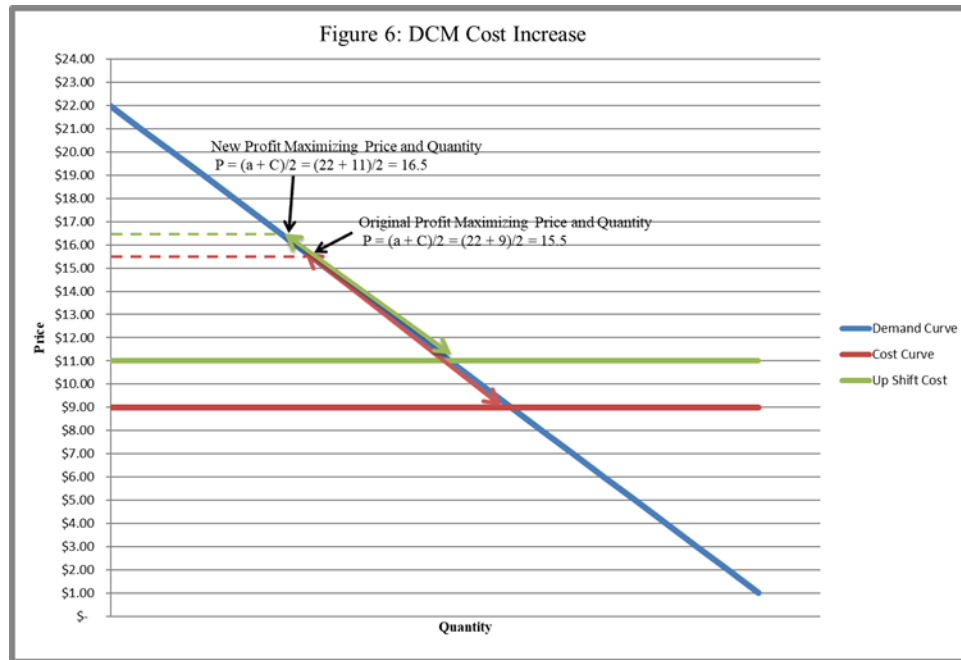
¹¹As readers will recognize this is a standard profit maximizing $MC=c$ calculation derived by setting the derivative by Q of profit to zero, and substituting the value of the profit maximizing solution for Q into the demand equation to get profit maximizing P . In this case Profit = $aQ - bQ^2 - cQ$, so that the Derivative of Profit by $Q = a - 2bQ - c$. Setting this to zero and solving for Q thus gives $Q=(a-c)/2b$ and substituting this into the demand equation gives a profit maximizing price of $P= (a+c)/2$. I offer to explain this after class to students who have taken calculus, and also geometrically using an ‘angle, side, angle’ proof of congruence for students who are willing to accept that the Marginal Revenue curve in this situation is the same as the Demand curve but with twice as steep a slope.

than *current production* are better approximated by the SDM (for example, agricultural output that is highly dependent on the size and quality of the spring harvest and cannot be adjusted in the short-term, before the next harvest. This is because the SDM is fundamentally based on a ‘perfectly competitive market’ that hardly exists at all in production sectors outside of perhaps family farms and other similar unique cases (Baiman 2016 Chap. 5). The DCM is therefore more generally applicable to (almost all) production markets, while the SDM only applies to financial and other specialized barter and (many) natural resource markets.

As shown in figures 3-6 below, using the DCM, shifting constraints on potential price and quantity outcomes can be captured graphically, though, unlike SDM outcomes, these do *not* give unique stable equilibrium *points* but rather show changed *intervals* within which new price and quantity outcomes may lie, depending on business strategies and market conditions (including class power and government policy). In practice, economic price and quantity outcomes are more likely to be result of adjusting their output to accommodate expected demand at targeted prices, rather than a ‘price based’ gravitational pulls toward a unique SDM equilibrium point(s). See for example the DCM analysis of gentrification in Baiman (2019).



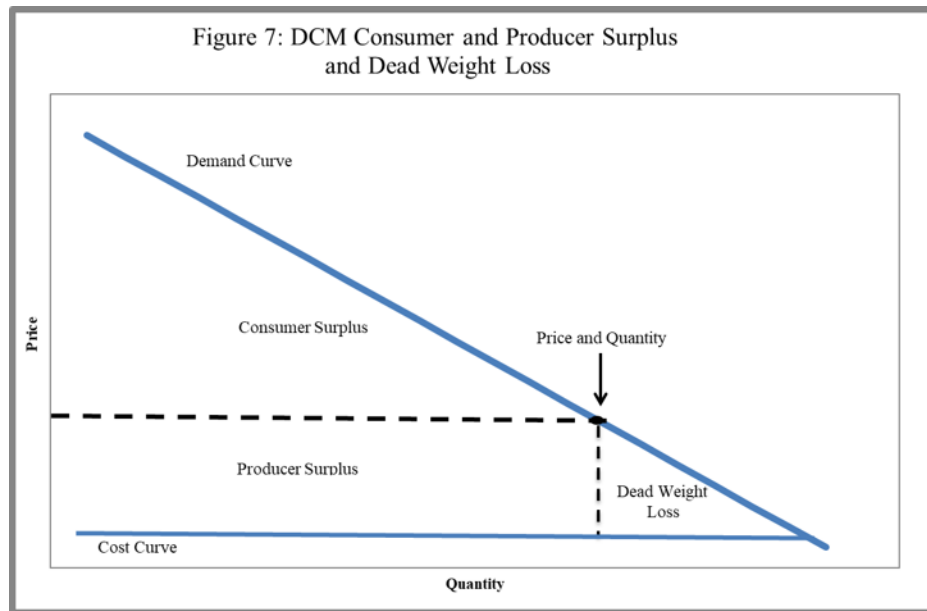




The DCM thus shows that price and quantity outcomes for almost all currently produced goods and services in market economies:

- a) are *subjectively determined and socially embedded*, mostly *quantity*, choices reflecting institutional and class power constrained by objective conditions,
 - b) Mostly *quantity* adjustment resulting in unstable macroeconomic equilibria,
 - c) often with *non-optimal* price and quantity outcomes
- a) DCM Prices and quantities are *socially determined* from a *range* of possible outcomes because market equilibrium prices and quantities are *not perfectly determined* but rather *are selected from a range* given by demand and cost conditions resulting in active *firm adjustments* of *quantity supplied* to *quantity demanded* and occasional price changes. Therefore, ‘Equilibrium’ quantities and prices are *subjective* products of *social governance*, *class power*, and *firm strategy* that are only partially influenced by cost and individual consumer choices, that are themselves *constrained and molded by class, culture, and marketing*.
 - b) DCM Outcomes are generally *unstable* or not ‘self-adjusting’ as, though individual firms will adjust production to meet demand, the *market equilibrium* so obtained is not a *macroeconomically* ‘self-correcting’ stable equilibrium. If multiple firms adjust output in the same direction with no, or modest, changes in price, firm output decisions will impact income streams causing shifts in demand curves that will lead to a *multiplied* reduction or increase in output. A ‘free market’ equilibrium is thus fully compatible with high levels of unemployment, unutilized capacity, and unmet social and individual needs that could be better satisfied if social resources were fully employed and allocated differently.
 - c) A DCM Outcome is *not* generally welfare optimal in either the static Neoclassical Economics ‘Pareto Optimal’ sense (see figure 7 below), or the more general Keynesian sense of fully employing underutilized resources. Thus, the DCM supports a Shaikhian Classical, or Post-Keynesian/Keleckian understanding of the modern capitalist market economy, and fundamentally *undermines* Adam Smith’s ‘invisible hand’ doctrine and with it ‘objective scientific’

support for the ‘Walarasian’ cornerstone ideology of NC economics (Shaikh 2016; Baiman 2020; Lavoie 1992; 2007). Figure 3 below shows that a DCM outcome is not welfare optimal in the narrow static NC Pareto Optimal of ‘zero deadweight loss’ unless producers’ price at cost which is of course not viable in the long term under capitalism.



4. Measuring Employment, Inflation, and Production

This topic is composed of three sections:

- a) Unemployment,
- b) Inflation,
- c) Output and Income.

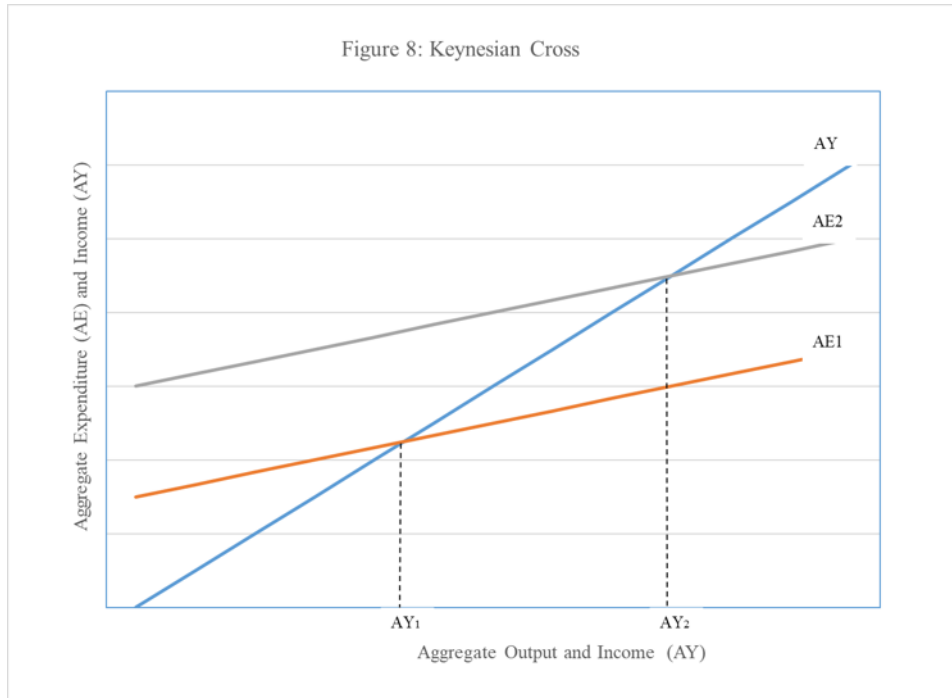
Aside from pointing out the implications of *finance* becoming a newly ‘*productive*’ sector in standard NIPA accounting starting in 1993, and employment to population ratio trends for post-war business cycles, the content of these subsections largely follows standard treatments and critiques (Mazzucato 2019 Chap. 4; Baiman 2020a, 2014; Riddell et al. 2011 Chap. 13). More fundamental critiques of NIPA accounting and suggested changes that do not treat all income as ‘productive’ and incorporate private debt and capital stock, are discussed in topic 7 (Hudson 2012; Keen 2012; 2017).

5. Classical and Keynesian Macroeconomics and Fiscal Policy

This topic includes the following five sections:

- a) The (Neo-) Classical Model,
- b) The Keynesian Critique of the (Neo-) Classical Model,
- c) The Keynesian Model,
- d) Fiscal Policy.

These largely follow standard treatments of Keynesian macroeconomics and fiscal policy centered around ‘The Keynesian Cross’ (figure 8) and deliberately excludes the now popular Aggregate Demand/Aggregate Supply (AD/AS) treatment that in topic 7 is critiqued as an unrealistic meme that reinforces the ideological messaging of the SDM (Ridell et al. 2011 Chap. 14; Colander 1995 Chap. 9, 10; Baiman 2016 Chap. 6).¹² Following the DCM discussion in topic 3, Topic 7 proposes an alternative more realistic ‘Aggregate Demand/Aggregate Cost’ approach to the standard AD/AS treatment (Baiman 2016 Chap. 6).



6. Money and Monetary Policy

This topic includes the following five sections:

- a) Money,
- b) Banks and the Creation of Money,
- c) The Fed and Monetary Policy,
- d) Financial Deregulation, 2008 Financial Crash, Bail-Out and Attempted Re-Regulation,
- e) Response to 2020 Coronavirus Crash.

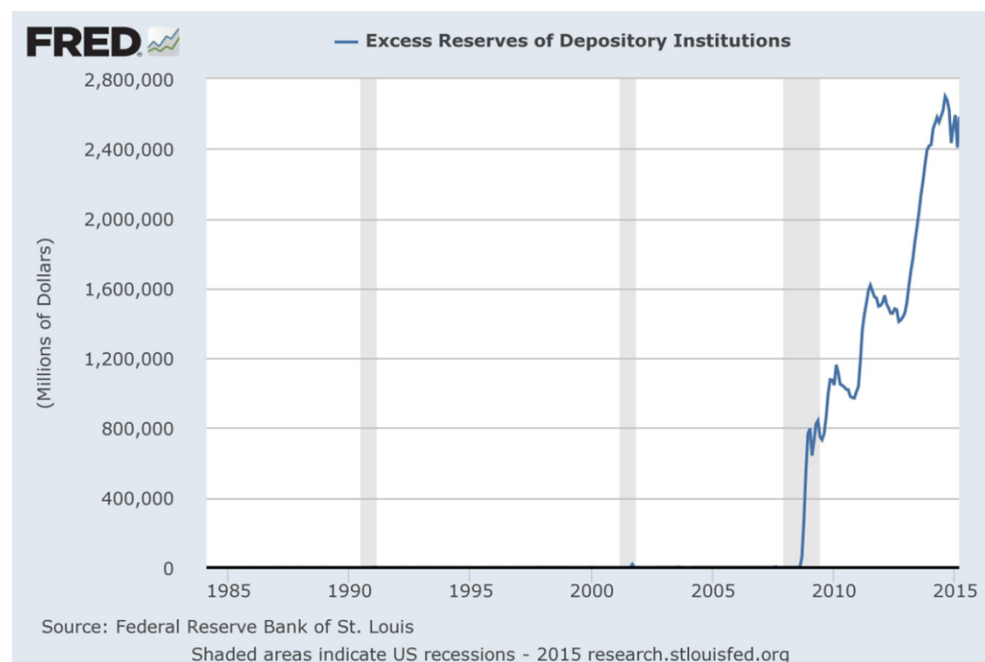
Of these, a) is a standard treatment. But b) – e) add to the standard treatment, a discussion of the post-2008 breakdown of the standard money multiplier and some of the implications and potential of a ‘Modern Monetary Theory’ approach to money supply and monetary policy when conditions allow for this (Baiman 2016 Chap. 7).

¹²Unfortunately, even David Colander, a well-known Post-Keynesian, eliminated the clear and unambiguous treatment of Keynesian economics as a radical break from the prevailing individual choice based SDM and AD/AS orthodoxy in chapters 9 and 10 in the 1995 2nd edition of his text (Colander 1995), in later editions presumably to make these more palatable to mainstream economics instructors used to the AD/AS formulation.

6.b) Banks and the Creation of Money

After the 2008 financial crash, and the implementation of FED payments of ‘Interest on Excess Reserves’ in addition to the risk-free Fed ‘dividend’ on stock that Banks purchase to part of the Federal Reserve system, there was an extraordinary increase in ‘Excess Reserve’ deposits that has not returned to pre-2008 near zero levels, see figure 9 (Dayen 2016).

Figure 9: US Banking System Excess Reserves (Series discontinued after 2013)



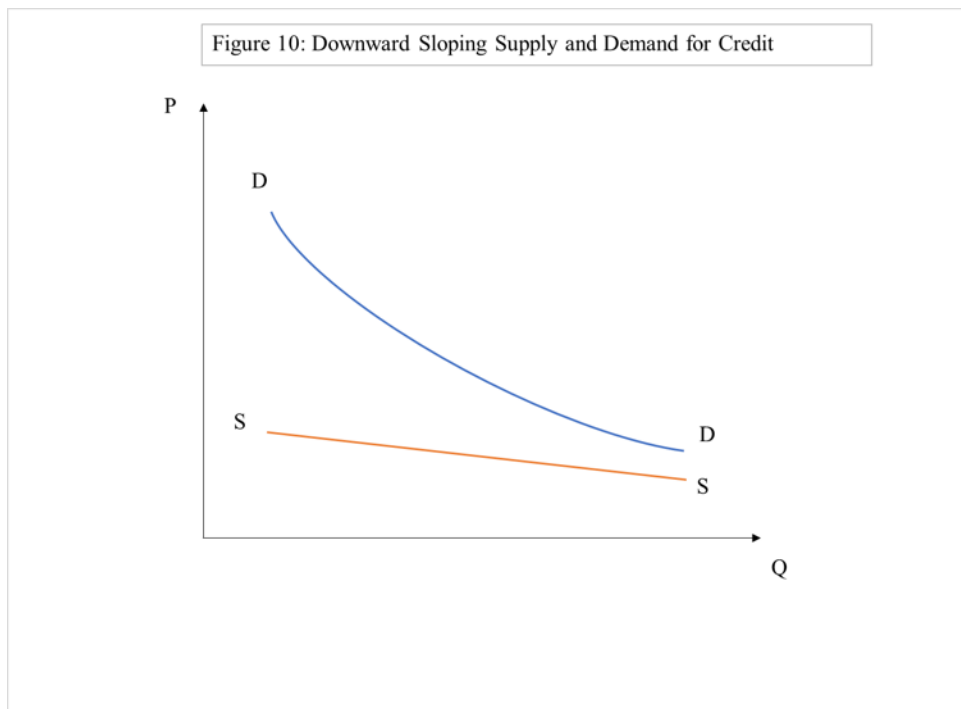
This led to a collapse in the standard ‘Money Multiplier’ in the US that (again) suggests that ‘endogenous money’ cannot be controlled by Fed suggesting that the Fed can affect interest rates but not money supply (Williams 2012).¹³

This supports the Modern Monetary Theory (MMT) view that individual banks are not constrained in their lending by deposits as, through double entry accounting, they can ‘ex-nihilo’ create deposits equal to the value of their loans and borrow reserves to cover this if they need to (see topic 6 problem 5 in the Appendix). Based on this view the primary limit to bank lending is *capital constraints* rather than the rrr (reserve requirements ratio). This has major macroeconomic policy implications that will be covered in topic 7.

6.c) The Fed and Monetary Policy

It is important to understand that, despite being a financial market, an *overall* national money or credit market does not behave as in the SDM but is rather based on a system of *administrative allocation* (Stretton 2000 Chap. 20; Baiman 2016 Chap 8). This is a result of the fact that there is normally always more demand for credit, or money, than supply, and both of these curves are downward sloping as shown in figure 10 below.

¹³As reviewed in Topic 7, the discrediting of ‘Monetarism’ as espoused by Milton Friedman and others in the 1980s had already shown this.



Source: Stretton (2000) Right panel of Figure 50.1 p. 692.

This administrative allocation does not have to be done by a for-profit banking system. In fact, there are many forms of money creation exist that do not rely on private ‘fractional reserve’ banking such as:

- a) Public and Private Money as supported by Modern Monetary Theory (MMT),
- b) Separate Money Markets, for example in the US in North Dakota by the State Bank of North Dakota,
- c) Public Money and Private Banking, as in Iceland that requires 75% rrr on capital inflows,
- d) Wholly Public Banking as in China.

6.d) Financial Deregulation, 2008 Financial Crash, Bail-Out and Attempted Re-Regulation

For a good review of this history see Riddel et al (2011 Chap. 16) and Hudson (2012; 2015).¹⁴ One important point to bear in mind regarding the 2008 Financial Crash or ‘Lesser Depression’ is that though the Congressional bail-out through the Troubled Asset Relief Program (TARP) of 2008 was \$700 B and paid back, estimates of non-TARP ‘normal’ and ‘emergency’ loan guarantee and asset purchases the Fed made to benefit the financial sector were much higher. One comprehensive estimate puts their value at about \$ 29 trillion (Flekerson 2011). Thus, though not identified as such by mainstream media or economic texts, there is little doubt that in essence 2008 bailout of the global financial system largely orchestrated by the Fed and European Central Banks was an MMT use of public money creation to bailout the US and international FIRE (Finance, Insurance, and Real Estate) sector, and other, more sectors (for example, the US the auto sector that was of ‘real’ importance to the economy) (Baiman 2020b). Taxpayers received no “equity stakes” in the

¹⁴ Almost all radical economists including ‘yours truly’ (unlike most NC economists) understood that pre-2008 US economic conditions were unsustainable and would crash at some point, but the mostly heterodox so-called ‘Bezemer 12’ did this using specific modeling and empirical evidence (Baiman 2004; 2007; 2016 Introduction; Bezemer 2011).

US financial system in return for this bailout, and existing high-level executives almost no penalties (unlike the 1990 Savings and Loan bail-out). There was no attempt to, even temporarily, socialize' private finance in the US despite its rampant malfeasance in the run-up to the 2008 crash. This was instead another classic case of 'socialism for the rich and capitalism for the poor' (Hudson 2015).

6.e) Response to 2020 Covid Pandemic Crash

The money created for the 2008 financial bailout would have, according to one estimate, been almost sufficient to save the planet. Instead (Baiman 2020b). More specifically, the 2008-2011 financial bailout would have paid for the drawdown of about three quarters of 2020-2050 greenhouse gas (GHG) emissions necessary to stay below 2.0 degrees Celsius (Baiman, 2020b).¹⁵ But levels of spending, taxing borrowing and rationing, for climate mitigation, FIRE, and overall economic resource reallocation and attention to social equity would have had to be different.

As predicted Baiman (2020b, p. 6), the 2020 pandemic crash of the US economy led to another MMT style massive increase in Gov and Fed money creation. Again, the vast bulk of the early pandemic bailouts were targeted to the FIRE sector and large corporations and accompanied by a corporate debt 'leverage' bubble (Hudson et al. 2020). However, unlike the 2008-2011 'abuse of MMT', a larger share of later pandemic bailouts enacted under the Biden administration were directed toward 'real' social and private sector needs and were a key factor in preventing a general economic catastrophe, as occurred in the Great Depression, in the US and elsewhere.

This largely confirms the major point that MMT theorists have been making which is that in countries (like the US) that control their own currency, federal government spending *is not limited by deficits* as these governments are 'currency issuers' not 'currency users'. In the post 2008 period the Federal Reserve accumulated trillions of dollars of T-Bills and still (in early 2024) holds a much larger portfolio than it had in the pre-2008 period. This very large and rapid expansion of the US money supply (so-called 'quantitative easing') was used to bail out private finance during the financial crash and then to bail out society at large during the COVID pandemic.

This has led to a large US public debt increase but the share of this debt held by the Fed is an accounting convention that is not real debt. Though the Treasury pays interest on treasury bonds held by the Fed these payments (minus a slight deduction for cost of Fed operations) are recycled back to the Treasury so that this is interest free 'debt' never has to be paid back. Therefore, Federal deficit spending (unlike private bank lending) increases the money supply without raising private debt. Federal deficit spending is thus a debt-free way to increase the money supply. As pointed out by MMT theorists the real limit to Federal deficit spending is inflation, not 'Federal government deficit'. Federal monetary power should be used for 'employment of last resort' and other *real economic* benefits with less concern over "public debt" (Kelton 2020).

7. Growth and Stabilization, and Heterodox Macroeconomics

This topic is composed of the following six sections:

- a) 'Aggregate Demand and Aggregate Supply' (AD/AS) versus 'Aggregate Demand and Aggregate Cost' (AD/AC),
- b) The Phillips Curve and the 'Non-Accelerating Inflation Rate of Unemployment' (NAIRU),

¹⁵Reductions in the *rate* of emissions of STCDs are correlated with global warming, unlike long-term GHGs like CO2 whose warming impact is correlated with their excess accumulated *stock* in the atmosphere and ocean. Reducing emissions of long-term GHG's does not cause global cooling but only a *reduction in the rate of increase of* global warming.

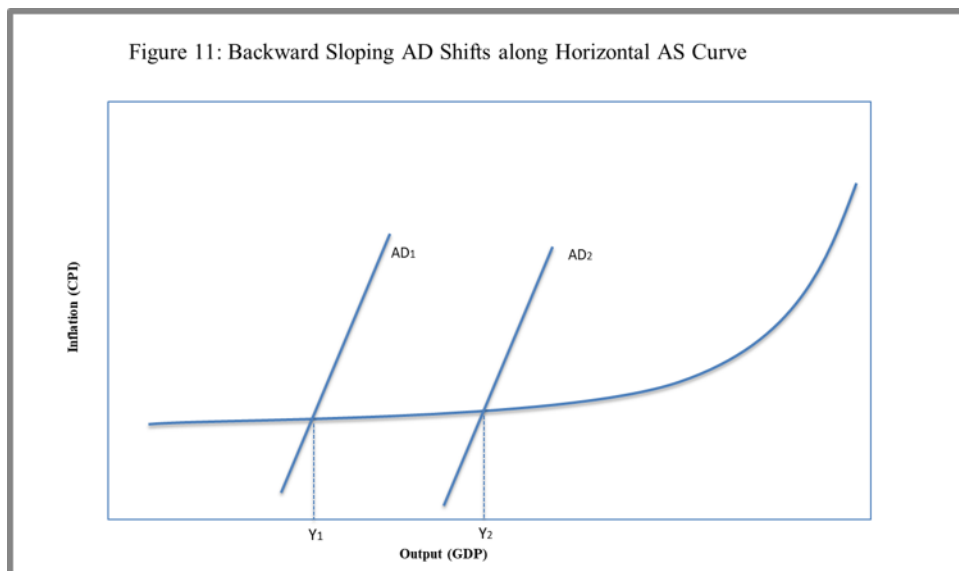
- c) Supply Side, Neo-Classical Keynesian, and Post-Keynesian Policies,
- d) Kaleckian (Post-Keynesian/Marxist) Model,
- e) Hudson and Keen Anti-Rentierist Macro Models,
- f) The Linkage Between the Three Types of National Economic Deficits.

7.a) Aggregate Demand and Aggregate Supply' (AD/AS) versus 'Aggregate Demand and Aggregate Cost' (AD/AC).

Standard NC principles of macroeconomic texts propose an (AD/AS) framework that, though acknowledged not to be a 'partial equilibrium' construction like the SDM, nonetheless builds on a similar analytical framework that serves to further solidify the key ideological messages of the SDM, as discussed in topic 3 (Colander 1995 Chap. 10; Baiman 2016 Chap. 6).^[15] This standard treatment attempts to reconstruct a 'faux' partial equilibrium AD/AS framework by invoking a 'real balance effect', 'real interest rate effect', 'foreign trade effect', and 'future price expectations effect' to justify a downward sloping AD curve, and 'sticky wages' to explain the upward slope of a presumed AS curve.

Post-Keynesians have long critiqued this framework as untenable, as, following the DCM and the 'Keynesian Cross', since quantity adjustment is more prevalent than price adjustment in the macroeconomy any movement up or down the AD curve will immediately cause the AS to shift and vice versa. Rather, Post-Keynesians believe that the Aggregate Demand curve shifts whenever there is a change in one of its components: C, I, G, X, or M-X that is usually not a response to a change in the price level. The magnitude of shifts in the AD curve instead depends on initial changes in spending and the multiplier.

An alternative more realistic macroeconomic heuristic model construction would follow the DCM instead of the SDM by assuming a mostly quantity-based convergence to a point on an upward sloping AD curve that is dependent on government policies, private sector decisions, and an upward sloping AC curve reflecting increasing costs from supply chain bottlenecks, as the AD curve shifts to the right, as shown in figure 11.



The AD is assumed to slope *upward*, as macroeconomic recent evidence (following Keynes' (1936)

concerns about the destabilizing effect of price declines) from Japan since the 1980 until 2023, and Europe and the US until after the impact of post 2020 pandemic AD stimulus packages, suggests that falling prices lead to lower demand and falling output, and rising prices (*ceteris paribus*) generally stimulate AD. The AC curve slopes *upwards* because bottleneck price effects occur when the economy begins to produce at or above full capacity. The AC shifts up or down when there are price shocks or changes in technology, or labor and productive resources. A hypothetical ‘Potential Real GDP’ (PRGDP) point on the AD curve indicates real GDP when resources are ‘fully’ (or normally) employed. Beyond the PRGDP point on the AD curve prices will accelerate if the AC curve does not flatten or shift to the right.

7.b) The Phillips Curve and the ‘Non-Accelerating Inflation Rate of Unemployment’ (NAIRU)

This section describes the history of the Phillips Curve and its use by Keynesians to combat inflation until the ‘stagflation’ of the 1970s and breakdown of the Phillips Curve in the face of leftward and upward shifts in the AC curve due to massive oil price hikes, and the subsequent 1980s NC macroeconomic ‘counter revolution’ discrediting Keynesian macroeconomics. This led to: the AD/AS macroeconomic modeling formulation, attempts to estimate a NAIRU, and the ‘Keynesian/Monetarist’ debate over the placement of the NAIRU point relative to real GDP (or the unemployment rate) on the AC (or mis-labeled AS) curve. These efforts were subsequently discredited during the post 2008 period of below NAIRU unemployment rates and *decelerating* inflation.

The end of the section includes a short discussion of the Shaikian ‘Classical Phillips Curve’ analysis of inflation using a ‘*surplus bottleneck*’ measured by the relative share of the surplus that is invested, or how close $\text{Sigma} (= \text{Investment}/(\text{Profit} - \text{Interest}))$ is to 1. This analysis of inflation appears to track 1951-2010 inflation rate data much better than a standard Phillips curve analysis that appears to exhibit no correlation with inflation over this period (Shaikh 2016 p. 707; Baiman 2020a).

7.c) Supply Side, Neo-Classical Keynesian, and Post-Keynesian Policies

This section includes a fairly conventional discussion of Mainstream New-Classical and Neo-Keynesian macroeconomic policy approaches, and a ‘radical’ or Post-Keynesian alternative to the Neo-Keynesian or NC Keynesian view. It notes that NC Keynesians generally believe in short-term demand stimulation to the NAIRU point determined by AD/AS but not in a long term ‘Principle of Effective Demand.’ An example of the different policy implications of these views is the Friedman/Romer(s) debate over whether Sander’s 2016 economic program would have resulted in long-term increases in growth and income (Friedman 2016; Galbraith 2016; Baiman 2016a).

Another example of the policy differences between NC Keynesians and radical economists is reflected in the (now obvious) error of President Obama’s 2009 remarks on the economy (Obama 2009):

“Though there are a lot of Americans who understandably think that government money would be better spent going to families and businesses instead of banks – ‘where’s are bailout?’ they ask – the truth is that a dollar of capital in a bank can actually result in eight or ten dollars of loans to families and businesses, a *multiplier effect* that can ultimately lead to a faster pace of economic growth.”

But (as shown in topic 6) after 2008 the ‘Money Multiplier’ collapsed as banks kept bail-out money as excess reserves. This supports the views of Neo-Marxist and Post-Keynesian anti-rentierists like Hudson and Keen who contend that, by bailing out banks instead of homeowners (as was done during the Great Depression), the debt bubble and debilitating debt burden on the real economy was maintained, leading to further increased inequality and a very slow and incomplete recovery

from the 2008 financial crash. As was (again) noted in topic 6, the US was not to experience a complete economic recovery from the financial crash to pre-2008 employment and output levels until the mostly MMT, much larger and household directed, stimulus of the post 2020 pandemic period.

7.d) Kaleckian (Post-Keynesian/Marxist) Model

This section includes is a review of a simple Kaleckian model that demonstrates that is based on a Marxist class-based understanding of capitalism, and offers an, in many ways, more realistic version of the Keynesian model that provides additional insight into the macroeconomic structure of a capitalist economy (Lavoie 2009 Chap. 4; Baiman 2016 Chap. 6).

Kalecki's class-based simplifying assumptions are that:

- a) Workers earn wages and spend all their wages on consumption.
- b) Capitalists collect profits which they spend on consumption and save and invest.
- c) So that 'workers spend what they earn' and 'capitalists earn what they spend.'

From these assumptions Kalecki constructed a simple short-term aggregate demand and aggregate production macroeconomic model similar to the 'Keynesian Cross' aggregate output and aggregate expenditure model described in topic 5 but based on the class-based structure of capitalism rather than a psychological 'marginal propensity to consume'.

The Kaleckian short-term macroeconomic model can be described with the following equations and depicted as shown in the 'Kaleckian Cross' in figure 12 (Lavoie 2009 p. 89-92):

$$(1) \text{ RAD} = (w/p)N + a$$

$$(2) q = TN$$

Where:

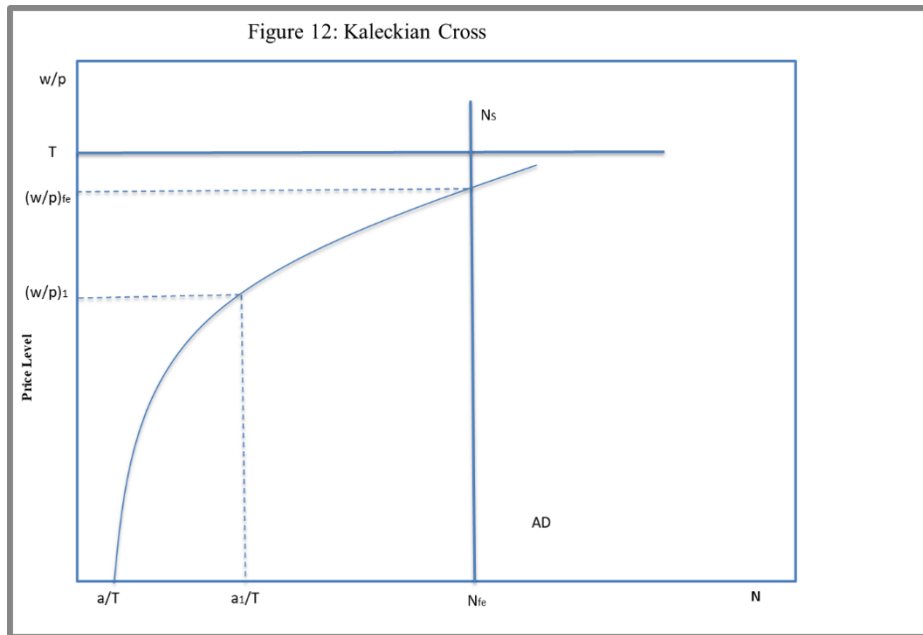
RAD (Real Aggregate Demand) = q

w/p – real wage

N – Employment

a - Autonomous Expenditures (Capitalist Consumption and Investment)

T – Labor productivity (q/N)



Source: Lavoie (2007) Figure 4.1 p. 93

This model shows that:

- Though individual (capitalist households) can increase their savings and reduce a , if all households do this (and productivity and real wages are unchanged) employment will decline reducing future overall profit/savings to a .
- Similarly, individual capitalists can cut costs and increase profit by reducing real wages, but if all firms do this (and productivity and a are constant) emp will decline reducing overall future profit to a .
- Finally, overall productivity increases (increasing T), not offset by real wage (w/p) or autonomous demand (a) increases, will *reduce* employment (N).

These results show that though the Kaleckian model produces a 'Paradox of Thrift' like that of the Keynesian model as demonstrated by a), it also produces a 'Paradox of Costs' as indicated by b) and a 'Paradox of Productivity' as shown by c). The Kaleckian short-run model thus shows that in a short-run model with fixed prices (like that the short-run Keynesian model), demand is dependent on real wages and technology rather than consumption and the MPC, and productivity increases without rising real wages and/or autonomous expenditures will increase unemployment. This suggests that productivity increases with tight labor markets during economic expansions are likely to induce rising real wages and continued employment growth, but 'cost cutting' productivity increases during recessions are likely to increase unemployment (Lavoie 2007 Chap. 4; Baiman 2016 Chap. 6). For some simple numerical examples of these Kaleckian model results see topic 7 MRE homework problem 1 (see sample homework problems and answers in Appendix).

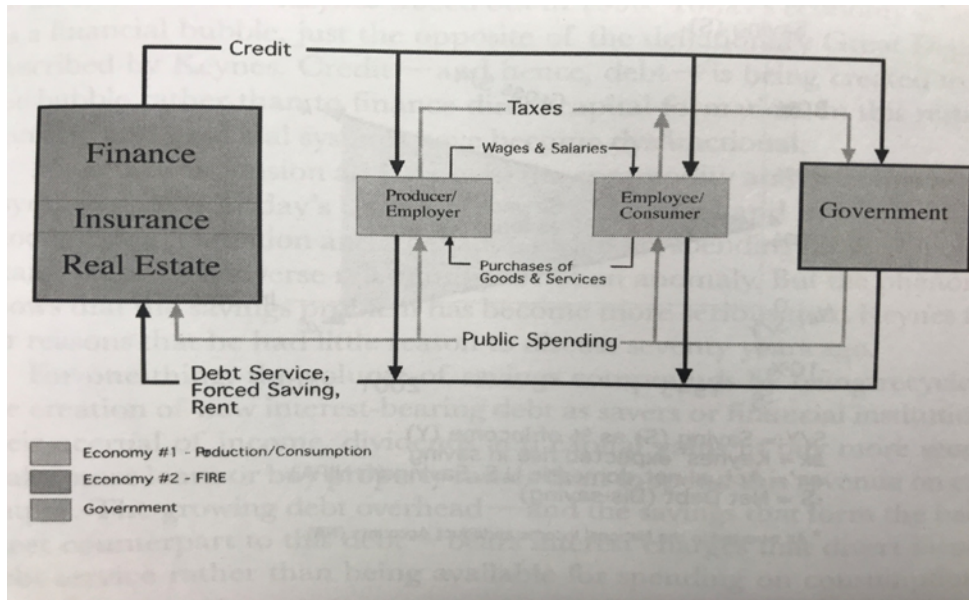
7.e) Hudson and Keen Anti-Rentierist Macro Models

Michael Hudson and Steve Keen are prominent Neo-Marxist and Post-Keynesian anti-rentierist radical economists.

Analyzing both contemporary history and ancient civilizations, Hudson has focused on the crit-

ical role that debt income has played historically and in the 2008 financial crisis (Hudson 2012; 2020). Hudson notes that ‘rentier income’, particularly from FIRE, is generally an unproductive ‘extraction’ from production, and advocates a reconfiguration of the standard NIPA ‘circular flow’ diagram to three separate ‘Economies’, as shown in figure 13.¹⁶

Figure 13: Interactions Between Economy #1 (Production and Consumption), Economy #2 (FIRE), and Economy #3 (Government)



Source: *The Bubble and Beyond* by Michael Hudson (2012, Figure 3, p. 299)

Hudson claims that standard NIPA accounting, based on a NC economic assumption that ‘all income is productive’ so that output=income as incomes from ‘labor, land, and capital’ are all equivalent, is erroneous. Hudson proposes instead that profit, dividends, rent, and interest (income from FIRE) be viewed as ‘surplus extraction’ and identified as such in the NIPA. Hudson’s Neo-Rentierist income and spending flow model is thus more consistent with the classical political economic Marxist and Post-Keynesian understanding of the foundational role of unearned ‘surplus value’ in capitalist production (as for example in the Kaleckian Post-Keynesian model of 7.d)).

Hudson claims that Marx’s (following James Steuart’s) profit from ‘alienation’, is ‘rent’ or property-based income from transfers, that does not come from the traditional “surplus value” or profits from production, or unpaid labor time, of classical and Marxist political economics (Shaikh 2016, p. 210). The dominant source of this rent is from ‘Finance, Insurance, and Real Estate’ (FIRE) extraction of interest, rent, and other payments from debt that drives up asset prices and creating more debt and more rent in a destabilizing positive feedback loop. Another source of rent is monopoly pricing by dominant platform technologies, pharmaceuticals, health insurance monopolies, and other monopolies with the market power to raise mark-ups above normal profit levels.

Steve Keen, and other Post-Keynesian economists (following Hyman Minsky), also focuses on the unique role of credit and money in macroeconomics and suggests that NIPA accounting be extended to include private debt and asset *stock* purchases as shown below (Minsky 1975; Keen 2012 p. 22-32; 2017):

¹⁶Courtesy of Michael Hudson, thank you!

$$Y + (\text{change in}) D = \text{GDP} + \text{NAT}$$

D is 'Private Debt'

NAT is 'Net Asset Turnover'

Where:

$$\text{NAT} = P_A \times Q_A \times T_A$$

P_A is Price of Assets

Q_A is Quantity of Assets

T_A is Turnover of Assets as fraction of the number of Assets < 1.

Per Minsky's 'Financial Instability Hypothesis' (and Hudson's views) Keen notes that financial exuberance can lead to runaway asset price bubbles and subsequent crashes (Minsky 1975). The equation below, which is the derivative of the equation above, expresses the fact that accelerated private debt creation can lead to an unsustainable asset price bubble (Keen 2012 p. 23; 2017).

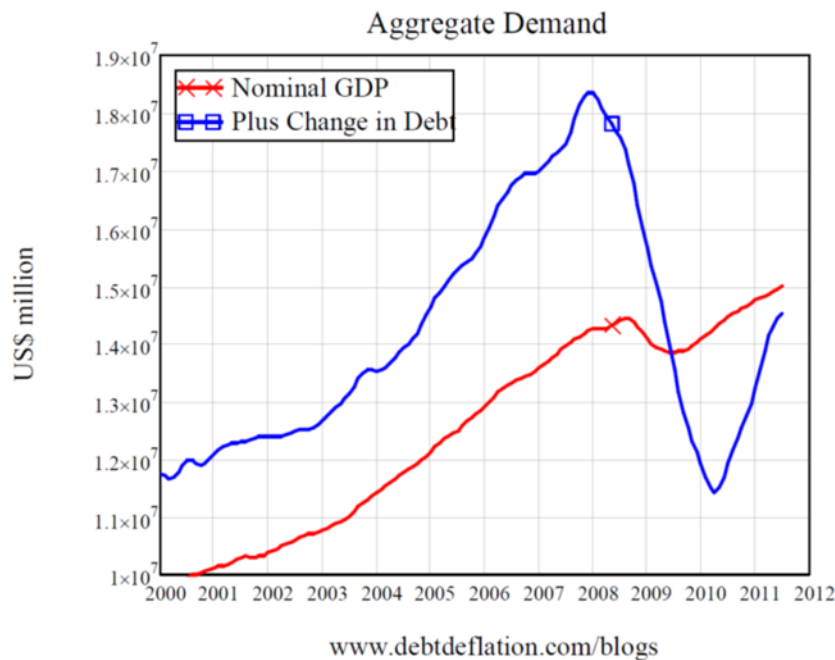
$$\frac{d}{dt} Y + \frac{d^2}{dt^2} D = \frac{d}{dt} \text{GDP} + \frac{d}{dt} (P_A \cdot Q_A \cdot T_A)$$

Keen provides abundant evidence suggesting that private debt acceleration and deceleration, and a rapid acceleration of public debt to offset the collapse of private debt, were key to the 2008 private financial crash and government response to it in the US and elsewhere (Keen 2012 Figures 7-11 p. 12-15; 2017). For example, see figure 14 below (a reproduction of Keen's figure 7). Keen notes that the financial crash started the rate of US private credit creation, or change in the level of private debt, rose from average of less than 6% of GDP between 1945 to 1970, to an average of 14% between 2006 and 2008. The collapse of private credit creation from a peak of plus 15% of GDP in 2008 to minus 5% of GDP in 2010 led to the financial crash (Keen 2017, p. 57). The financial crash was a result of private for-profit engineered debt leverage expansion via supposed "risk free" Collateralized Mortgage Obligations (CMOs) backed by Credit Default Swaps (CDSs) that were supposed to provide insurance against default (Riddell et al. 2011, p. 405-11). As described in Topic 6 this created a private debt bubble that led to unsustainable private expansion of private debt leverage, or "an abuse of MMT", as described above by Minsky, Hudson, Keen and others (Hudson et al. 2020).¹⁷

Figure 14: Private Debt Reduction Leads to 2008 Financial Crash in U.S.

¹⁷See Appendix Topic 6 Exercise 5 homework problem and solutions depicting how and why this process of "ex nihilo" private banking sector expansion of debt leverage and money and credit can occur in an excessively deregulated financial sector.

Figure 7



Source: Keen (2012, Figure 7, p. 12)

Keen proposes the following policies to reduce the harm and danger of modern capitalist FIRE based rentierism (Keen 2012 p. 15-32, Baiman 2020a):

- a) 'Modern Jubilee' Quantitative Easing (QE) for the public grants that must be used to pay down debt first, and for carbon neutral or negative spending second.
- b) 'Jubilee Shares' permanent for 'Initial Public Offering' (IPO) investors and for one secondary market sale but lasting only 50 years for additional sales/purchases.
- c) 'Property Income Limited Leverage' (PILL) limiting mortgage lending to 10x property income.

Finally, Baiman (2020a) also provides evidence suggesting that the modern US capitalist is increasingly becoming a 'rentierist' economy where much of the surplus is extracted through the market power of FIRE and platform and other monopolies, rather than through unpaid labor at the point of production as in more traditional classical political economic/Neo-Marxist analysis like that of Shaikh (2016). Though Baiman contends that Shaikh's analysis is relevant to earlier periods of US capitalism and to more established non-rentier economic sectors (Baiman 2020a, 2014, 2006; Shaikh 2016).

7.f) The Linkage Between the Three Types of National Economic Deficits

This section discusses the work on debt linkage that the was the basis of well-known Post-Keynesian Wynne Godley's predictions, using modeling and empirical evidence, of an imminent US, and inevitably global, financial crash (as did Keen) (Godley et al 2007; Bezemer 2011).¹⁸ Godley was an early advocate of Keynesian 'stock-flow' accounting, but used mostly standard NIPA 'flow'

¹⁸This paper focuses on content as believe that this that this is the major problem with current economics instruction. In my view discussions of 'pedagogy' or 'how to teach' (as opposed to 'what is taught') can generally be applied to varied content, not specific to radical economics, and is in any case beyond the scope of this paper.

accounting to empirically show, in a series of papers before and during 2007, that a crash in the US economy was imminent, based on the standard simplified Keynesian NIPA equations below:

$$C+I+G+X-M = C + S + T$$

$$I + G + X-M = S + T$$

$$I-S + G-T = M-X$$

Implying that: ‘Private Debt’ + ‘Government Debt’ = ‘Current Account Foreign Deficit’

Like Keen, Godley used this to warn that instead of a misguided focus on *public* debt, policy should focus on the linkage between private debt, and in the US case, the long-running and massive US current account trade deficit. Godley et al. (2007) concluded that due to the accounting linkages between these three types of macroeconomic debt; to avoid an economic crash, significant federal deficit reduction must be accompanied by trade deficit reduction policies.

This ‘deficit linkage identity’ also implied that the only other way to significantly reduce the federal deficit without increasing unemployment is to dramatically increase private deficits, as had occurred during the Clinton ‘Dot Com’ stock and technology bubble that stimulated enough demand to create full employment even as federal deficit became a surplus. However, this was unsustainable as evidenced by the eventual 2008 financial crash requiring a public debt bailout. Godley’s thesis was that this was going to be inevitable without a large increase in public deficit, in the absence of a significant structural decline in the US trade deficit.

8. International Trade and Finance, and the Climate Crisis

This topic includes the following five sections:

- a) Comparative Advantage,
- b) Trade Policy,
- c) International Finance Accounting,
- d) Exchange Rates,
- e) Our Two Climate Crises.

Of these, the treatments of c) and d) are conventional, see for example Riddell et al. (2011) Chap. .19-20). I will therefore restrict my remarks below to a), b) and e) (Baiman 2016 Chap. 8; 2018; 2022).

8.a) Comparative Advantage

This section begins with a short history of the ‘corn laws’ and Ricardo’s role as a prominent UK classical political economist and representative of the rising bourgeoisie in their struggles against the landed gentry and feudal aristocracy which was a central theme of classical political economy. After thus politically situating the comparative advantage parable, I go over Ricardo’s exposition in detail to show that, contrary its standard stripped treatment and Ricardo’s own belief, it demonstrates that only ‘managed trade’, not ‘free trade’, can deliver the (static) benefits of comparative advantage (Baiman 2017; 2016 Chap. 8; 2010).

The key distinction between my treatment and the standard treatment is the inclusion of Hume’s ‘species flow mechanism’, a classical ‘Monetarist’ analog of modern ‘freely floating exchange rates’.

This is an essential part of Ricardo's parable, that is generally ignored in standard treatments.

Hume's species flow mechanism opens two-way trade between the (less productive England in Ricardo's 'tongue in cheek' effort to show that the benefits of 'free trade' accrue even to less productive nations) and the more productive Portugal (Baiman 2017; 2010). Standard texts omit this critical link in the argument showing two-way trade and the realization of comparative advantage benefits by both countries is only possible with gold price inflation in Portugal.

Using Ricardo's numerical example, if international 'gold' prices reflect labor costs, then initially, under 'Free Trade,' England will import *both* Cloth and Wine from Portugal and pay for both by transferring gold to Portugal. This will cause unemployment in England, and price inflation in terms of gold in Portugal, without (based on Ricardo's classical assumptions) affecting domestic relative prices. So that, for example with the 25% inflation that is often assumed in standard texts, Portugal's terms of trade with England will go from 80/90 to 100/112.5, allowing two-way trade will begin.

Ricardo concluded that after the workings of Hume's Species Flow mechanism, England would specialize in Cloth and Portugal in Wine, and *both* countries (including less productive England) could then benefit from higher CPF's (Consumption Possibility Frontiers) while maintaining full employment and balanced trade. But (Baiman, 2017 Chap. 2; 2010) shows that even if all of Ricardo's assumptions hold, this will not occur as this system is *over determined*.^[19]

The problem is that Ricardo's model includes 2 demand equations, 2 full employment equations, and 1 trade balance equation which equals 5 equations, but only three unknowns: increased English purchases of imported Portuguese wine, increased Portuguese purchases of imported English cloth, and the relative rise of Portuguese (international gold) prices relative to English prices. This means that in (its simplest form) the parable has five equations but only three unknowns, so the system is in general mathematically *overdetermined* and has no solution. Thus, unless England imposes a tariff or quota on Portuguese wine, the two countries will not be able to have balanced trade and maintain full employment as Ricardo assumes. Therefore, Ricardo's comparative advantage model supports *managed trade* rather than *free trade*. This overdetermination problem also is proven in Baiman (2010) with realistic demand elasticities and *cross-elasticities* for 7 equations and 5 unknowns.

8.b) Trade Policy

This section reviews the modern history of international trade and many of the standard Post Keynesian and institutionalist critiques of the limiting, classical political economic, assumptions of Ricardo's, and NC, comparative advantage endowment-based free trade and international finance models (Riddell et al. 2011 Chaps. 19, 20; Stretton 2000 Chaps. 49, 51). Aside from the standard Keynesian critiques of the free trade doctrine focusing on quantity rather than price adjustments and violations of Marshall-Lerner conditions, Baiman (2017, Chap. 3 and 4) shows that Meade's bilateral demonstration of the existence of a free trade equilibrium will not generally apply for countries with very unequal productivities or capacities, and that the free trade doctrine for any exchange rate based model (regardless of other assumptions) with $n > 2$ countries is generally mathematically infeasible, as if a global trade balancing equilibrium point exists it will generally be *unstable*.

An outline of *progressive international trade principle* is also presented in this section. These principles would attempt to ensure that (Baiman 2017 Chap. 8 p. 157; Baiman et al. 2018):

- a) Prices in any society should reflect the true social costs of that society.

- b) Societies with higher social costs have the right to impose tariffs on goods and services produced in lower-social costs societies up to a level that equalizes these costs to producers in both societies and rebate these revenues to support broad-based increases of social costs in lower-standard societies.
- c) When, for political reasons or to support economic development, a higher social-cost society subsidizes production in a lower social-cost society by not imposing tariffs at this level, the burden of these subsidizes should be shared by *all* producers and workers in the higher social-cost society, and not just by directly affected domestic producers and workers.
- d) Only tariffs on trade between societies with comparable social costs, or tariffs that *exceed* levels that can be justified based on b) above, should be considered ‘predatory’ and not permitted.

8.e) Our Two Climate Crises

The climate crisis, as is widely acknowledged, is the most important crisis that humanity has ever faced. It will impact all of economics, human civilization, and all living species on our planet. However, not generally acknowledged, is that we are really facing *two climate crises*: a) a ‘short-term’ (next few decades or century or longer) *urgent direct climate cooling crisis*, and b) a long-term *sustainable human civilization transition and natural regeneration*, crises (Baiman 2022).

To address the first ‘short term’ emergency crisis, we need to directly cool the planet to reduce harm, preserve ecosystems, and save lives. Deep cuts in GHG emissions, and drawdown of GHG from the atmosphere and oceans are necessary but will require a fundamental transformation of the global economy that will likely take many decades (Baiman 2021, 2020).

There are at least 14 different approaches to potentially do implement *direct climate cooling* including (Baiman et al. 2024) including:

- a) Stratospheric Aerosol Injection (SAI)
- b) Marine Cloud Brightening (MCB)
- c) Cirrus Cloud thinning (CCT)
- d) Mixed Cloud Thinning (MCT)
- e) Tropospheric Aerosol Injection (TAI)
- f) Ocean Thermal Energy Conversion (OTEC)
- g) Restoring soil and vegetation
- h) Ice shields to thicken polar ice
- i) Tree planting and reflective materials in urban areas

Those that are most likely to be scalable to urgently (within the next decade or two) to have a global impact are SAI, MCB, CCT, MCT and TAI. MCB and TAI, for example, are proposed as possible global cooling alternatives to sulfate aerosols for future non-GHG emitting maritime fuel (Baiman et al. 2024a). Current emitted sulfate emissions from burning fossil fuels is a form of TAI (that is malignant to human health) that has a significant global cooling impact (Baiman et al.

2024a). In addition, reducing the emissions of Short-term Climate-Driver (STCDs) GHGs has a near-term climate cooling impact (Baiman 2024a).¹⁹

DCC and other kinds of near-term climate cooling will provide time to address the more fundamental long-term crisis (Baiman 2025). While perhaps theoretically possible, insufficient and unfulfilled government commitments, economic realities and the sheer magnitude of the task make it unrealistic to think global GHG emissions can be cut in half by 2030, which according to a 2021 United Nations Environmental Programme report would be necessary to have a greater than 66 percent chance of keeping global warming below 1.5 °C through the 21st century (UNEP 2021). Achieving the IPCC goal of halving emissions to keep average warming below 1.5 °C, or even the slightly more realistic Paris agreement goal of having a 66 percent chance of keeping warming below 2.0 °C, would require the equivalent of an at least 3.4 percent reductions in global GHG emissions every year from 2022 to 2030, and therefore is also unrealistic (Baiman et al. 2023 Section 5).

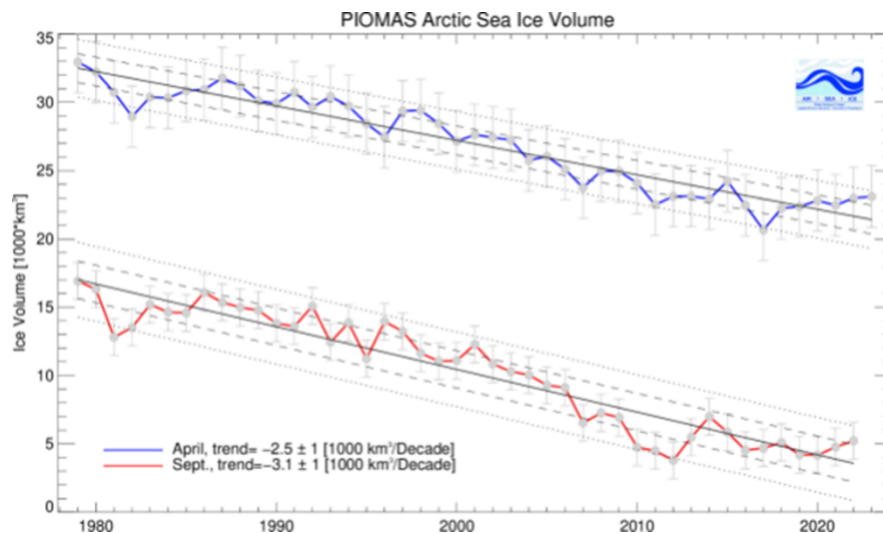
Without urgent direct climate cooling (DCC) to try to reduce warming to below 1.0 C, we risk activation at least eight major climate tipping points some of which may have already been irreversibly triggered (Rockstrom, 2023):

- a) Arctic Sea Ice reduction in area
- b) Permafrost thawing
- c) Greenland Ice Sheet ice loss acceleration
- d) Boreal Forest fires and pests changing
- e) Atlantic Meridional Overturning Circulation in slowdown since 1960s
- f) Amazon Rainforest frequent droughts
- g) West Antarctic ice loss accerarting
- h) Wilkes Basin East Antarctic ice loss accelerating
- i) Corral Reefs large scale die-offs

For example, as shown in figure 15, within two decades, in addition to year around thinning, the Arctic is projected to be ice-free for the month of September. This will remove ice reflectivity and increase ocean heat absorption creating destabilizing ‘positive feed-back’ global warming equivalent to over 20 years of greenhouse gas emissions, measured from 1979 to complete loss of summer Arctic sea-ice (Baiman 2021; Baiman et al. 2024).

Figure 15: Monthly Arctic Sea-Ice Volume for April and September

¹⁹Reductions in the *rate* of emissions of STCDs are correlated with global warming, unlike long-term GHGs like CO2 who’s warming impact is correlated with their excess accumulated *stock* in the atmosphere and ocean. Reducing emissions of long-term GHG’s does not cause global cooling but only a *reduction in the rate of increase of* global warming.



Source: http://psc.apl.uw.edu/wordpress/wp-content/uploads/schweiger/ice_volume/BPIOMASIceVolumeAprS.png Downloaded 8/11/2023 from the Polar Science Center, Applied Physics Laboratory, University of Washington, USA.

The climate crisis is therefore, at least in the short term, not fundamentally a moral and political problem, but a practical environmental and technological problem that must be addressed within existing social and economic systems. Direct climate cooling would provide time for humanity to evolve from a fossil fuel and mineral mining ‘industrial hunter-gatherer’ civilization dependent on discovering and extracting fossil fuels and minerals from particular locations to a potentially more equitable, prosperous and ecologically sustainable ‘industrial farmer-cultivation’ civilization that can harvest energy and use minerals from the ocean and carbon from the air to synthesize materials, almost everywhere on the planet.

This cannot be done quickly as our embedded physical, economic, social and political infrastructure is deeply dependent on fossil fuels. Therefore, especially without rapid *mandated* massive transfers of funding and technology from poor to rich countries and individuals, the transition to a global ‘industrial farmer civilization’ will take a very long time.

Equitable reductions in GHG emissions would, for example, need to support economic development to offset the estimated \$4 trillion in foreign exchange from oil and related products that countries comprising 1.1 billion people, or 14.2 percent of world population, depended on in 2019 for over 10% of their total export revenue (Baiman, 2022, Table 2). But, as the Kyoto global mandatory funding and technology transfer regime has been suspended, it is highly unlikely that this will occur at any time in the near future. Over the thirteen years from 2006 - 2018 the Clean Development Mechanism that was part of the mandatory Kyoto accord transferred \$303.8 billion from rich countries to poor countries for mitigation and adaptation (CDM, 2018). In contrast, the Paris Agreement voluntary Green Climate Fund (GCF) over the eight years from 2014 - 2021 raised only \$18.2 billion (GCF, 2022).

As is stated in Baiman et al. (2023):

“During at least the next several decades (and possibly much longer), direct cooling is essential to limiting further warming and preventing human-induced climate change from spiraling out of control. Only the application of emergency cooling “tourniquets,” applied as soon as is reasonably advisable, has the potential to slow and start to reverse ongoing climate disruption. Only direct

climate cooling can slow or reverse Arctic Sea ice loss, which seems near to flip the Arctic Ocean into a summertime regime of very little, if any, sea ice. The very serious challenges imposed by increasing climate disruption and the economic opportunity of transforming the global energy system must be urgently addressed together if unacceptable risks to society are to be minimized. Humanity has never faced an existential threat so critical for the long-term survival of human civilization and the ecosystems of the Earth on which society depends.”

Most fundamentally, in the long run we cannot continue to expand our natural “footprint” so that economic growth will eventually stagnate and collapse if we do not take the necessary short-term and long-term measures to build a just and sustainable human civilization (Herrington 2020, 2024; Baiman 2020, 2021, 2022, 2025; Baiman et al 2024; Baiman et al. 2024a).

Appendix: Sample Homework Problems and Solutions

A sample set of problems and solutions can be accessed here: <https://doi.org/10.17632/52ykd75b2k.1> (Baiman 2024). A large selection of course power points, problems, solutions, and video links can be accessed here: <https://doi.org/10.17632/7hxn4xnrh.1> (Baiman 2024b).

Topic 1: Economic Methodologies and Economic Systems

From: Chap. 1-3: *The Morality of Radical Economics* (MRE) and Chap. 3 of *Understanding Capitalism* (UC):

- 1) Outline the methodological position of orthodox, or mainstream Neoclassical (NC) economics (MRE p. 9-12, 64-70).
- 2) Outline the methodological position of progressive heterodox, or Radical economics (MRE p. 13-18, 44-49, 64-70).
- 3) Explain what a “three dimensional” approach to economics is and how these three dimensions are related to Neoclassical Economics (NC), and Political Economics (PE), respectively (MRE p. 65-66, UC p. 53-57).
- 4) Fill-in the missing cells in the following schematic outline of the methodological differences between Neoclassical (standard) and Political Economy (radical) economics, and provide a general (one paragraph) explanation of your answers with examples from the table.

Economics Methodology Exercise

	(Neoclassical) Economics	Political Economy
Focus of Inquiry	Exchange	Power
Object of Study	Markets	Property Relations
Agents	Individuals	Classes
Values	Efficiency	Fairness and Democracy

- 5) Fill-in the missing cells in the following schematic outline of the three dimensions of political economy and explain your answers (as well as you can):

Dimensions of Political Economy Exercise

Dimension	Characteristic	(Neoclassical) Economics	Political Economy
Horizontal	Exchange	Competition	Competition
Vertical	Power		Command
Time	Change		Investment

- 6) Fill-in the missing cells in the following schematic outline of the system of distribution, the direct producers, and the owners and controllers of surplus, for different economic systems and explain your answers (as well as you can):

Economic Systems Exercise

Economic System	System of Distribution	Direct Producers	Owners and controllers of surplus
Tribal Society/Primitive Communism	traditional	Everyone of working age	Very little surplus Tribal elders
Classical Civ ilization/Egyptians, Greeks, Romans	Markets and state	Slaves	Slave Owners
Feudalism	Traditional within manors	Serfs	Lords
Independent Commodity Production/ Pre-Civil War U.S. for White Males	Markets	Independent farmers and craftsmen	Independent producers
Capitalism	For profit production for markets	Wage workers	Capitalists

Topic 2: History of Economic Thought, Modern Economic History, and Economics and Values

From Chap 1 of: *The Morality of Radical Economics* (MRE) and Chap. 3 of *Understanding Capitalism*, by Bowels, Edwards, and Roosevelt (UC), and Week 1 power point slides (S):

- 1) What is the mainstream or Neoclassical (NC) economics view on the role of values in economics? (MRE, p. 9-12) (S 5-8).
- 2) What is the “Radical” (or Progressive Heterodox) on the role of values in economics? (MRE, p. 13-14) (S 10).
- 3) What is the difference between “value-free”, “pluralist”, and “contested-values” views of the role of values in economics? (MRE, p. 14-18) (S 5-8, 10, 11).
- 4) Explain three basic values that are important to economic and social systems and how these are related to NC and PE economics, respectively. (UC, p. 60-68) (S 12).

From Chap. 4 and 7 of *Understanding Capitalism*, by Bowels, Edwards, and Roosevelt (UC):

- 5) What economic problem did Smith identify as the basic challenge of economics, where did this problem come from, and how did Smith believe it could be solved? (UC, p. 73-76) (S 14).
- 6) Why key economic problem did Marx identify, where did it come from, and how did Marx believe that it could be solved? (UC, p. 76-78) (S 27).
- 7) How did U.S. Class structure evolve from 1780 to today? (UC, p. 152-157) (S 44-45).
- 8) Describe the major stages of modern U.S. capitalism from 1860 to the present. (UC, p. 160-164) (S 47).

Topic 6: Money and Monetary Policy

Section 6.b) Banks and the Creation of Money

- 5) Modern Monetary Theory points out that banks in the real world are not constrained by the level of their deposits but rather by their level overall risk based on their capitalization or ‘leverage ratio’. Suppose a bank balance sheet looked like this with a 5% required reserve ratio.

Assets		Liabilities		Net Worth
Reserves	\$200	Deposits	\$4,000	
Loans	\$3,800			
Treasury Bills	\$0			
Other investments	\$1,000.00			
	\$5,000.00		\$4,000.00	\$1,000.00
Leverage				3.8

- a) How would this balance sheet change if the bank provided a \$1,000 loan to one of its depositors who deposited this loan back in the bank?
- b) What would this do the bank’s capitalization or ‘leverage ratio’?
- c) Would the bank still be in reserve requirement compliance? One way to get back into compliance would be to sell some of its other investments to raise reserve cash. What would the bank balance sheet then look like?
- d) Now suppose \$2,000 of the bank’s \$3,800 in loans had to be written off as they were ‘non-performing’ (borrowers could not pay them back). What would the bank’s balance sheet then look like? What would be the bank’s net worth?
- e) What does the balance sheet in d) imply about the relationship between bank created money, leverage, and risk?

s					
	Assets		Liabilities		Net Worth
	Reserves	\$200	Deposits	\$4,000	
	Loans	\$3,800			
	Treasury Bills	\$0			
	Other investments	\$1,000.00			
		\$5,000.00		\$4,000.00	\$1,000.00
	Leverage				3.8
a	Assets		Liabilities		Net Worth
	Reserves	\$200	Deposits	\$5,000	
	Loans	\$4,800			
	Treasury Bills	\$0			
	Other investments	\$1,000.00			
		\$6,000.00		\$5,000.00	\$1,000.00
	Leverage				4.8
b	Capitalization or "leverage" ratio (loans/net worth) would increase from 3.8 to 4.8.				
c	Assets		Liabilities		Net Worth
	Reserves	\$250	Deposits	\$5,000	
	Loans	\$4,800			
	Treasury Bills	\$0			
	Other investments	\$950.00			
		\$6,000.00		\$5,000.00	\$1,000.00
	Leverage				4.8
d	Assets		Liabilities		Net Worth
	Reserves	\$250	Deposits	\$5,000	
	Loans	\$2,800			
	Treasury Bills	\$0			
	Other investments	\$950.00			
		\$4,000.00		\$5,000.00	-\$1,000.00
	Leverage				-2.8
e	Increased private bank credit or money creation, increases leverage. This increases the risk of negative bank net worth or default.				

Topic 7: Growth and Stabilization, and Heterodox Macroeconomics

Section 7.d): Kaleckian (Post-Keynesian/Marxist) Model

:

1) In a Kaleckian Labor Market or short-term effective demand model of the form (see Lavoie, p. 92):

$$(1) \text{ RAD} = (w/p)N + a$$

$$(2) q = \text{TN}$$

so that at equilibrium:

$$\text{RAD} = q$$

$$\text{And: TN} = (w/p)N + a$$

$$(3) N = a / (T - (w/p))$$

$$\text{So that: } (4) (w/p) = T - a/N$$

Assume an initial equilibrium where: $T = 50$, $N = 1000$, $a = 20,000$, $w/p = 30$, $\text{RAD} = q = 50,000$, so that (1) becomes: $50,000 = 30 \times 1000 + 20,000$ and (3) becomes: $30 = 50 - (20,000/1,000)$.

Also note that from (1) that at this equilibrium overall profits have to equal $a = 20,000$.

As in the Keynesian model assume *quantity* or output and employment adjustment.

- a) If capitalists decide to increase saving by reducing ‘capitalist consumption’ (spending and investment) by 10,000 so that $a=10,000$. Is there a solution for N if real wages and productivity stay the same? Will the economy continue to produce the \$2,000 in savings that it used to? Why is this the Kaleckian ‘Paradox of Thrift’?

In this case $a = 10,000$, so that if real wages (w/p), and Productivity stay the same, *output and employment will decline and profit will be reduced from 20,000 to 10,000*,

as from (3): $w/p = T - a/N$ will become: $30 = 50 - 10,000/500$,

$$N = a/(T - (w/p)) \quad N = 10,000/(50-30) = 10,000/20 = 500$$

and from (1) $RAD = (w/p)N + a$ will become: $25,000 = 30 \times 500 + 10,000$

This is the Kaleckian ‘Paradox of Thrift’.

- b) If capitalists are able to reduce costs by cutting wages by 10 so that $w/p=20$. Is there a solution for N , if capitalist consumption and productivity stay the same? Will the economy produce more profit than it used to? Why is this the Kaleckian ‘Paradox of Costs’?

In this case real wages (w/p)=20, when productivity and capitalist consumption stay the same, *output and employment will decline and profit will remain what it was at 20,000*.

as from (3): $w/p = T - a/N$ will become: $20 = 50 - 20,000/666.67$,

$$N = a/(T - (w/p)) \quad N = 20,000/(50 - 20) = 20,000/30 = 666.67$$

and from (1) $RAD = (w/p)N + a$ will become: $33,333.4 = 20 \times 666.67 + 20,000$

This is the Kaleckian ‘Paradox of costs’ as if all capitalists try to increase their profit by cutting wages demand, output, and employment will decline, so that overall profits will stay the same instead of increasing.

- c) If due to new investment labor productivity increases from $T=50$ to $T=70$, what is the new output and employment equilibrium, if real wages and capitalist consumption stay the same?

In this case N declines to 500. Profit does not change, but employment and income for workers declines.

$$N = a/(T - (w/p)) \quad N = 20,000/(70 - 30) = 20,000/40 = 500$$

and from (1) $RAD = (w/p)N + a$ will become: $35,000 = 30 \times 500 + 20,000$.

This is the Kaleckian ‘Paradox of Productivity’ as higher productivity without real wage or capitalist consumption increases will reduce output and employment.

Topic 8: International Trade and Finance

From: MRE Chap. 8:

1. In his “Comparative Advantage” example British Political Economist David Ricardo described the following example. Two countries, England and Portugal fully employ all of their workers producing cloth and wine. It takes England 120 million worker years to produce the 1 billion barrels of wine it needs for domestic consumption and 100 million worker years to produce the 1 billion square yards of cloth it needs for domestic consumption. It takes Portugal 80 million worker to produce its 1 billion barrels of wine needs and 90 million workers to produce its 1

billion square yards of cloth needs. (This is far in the future. Both England and Portugal are much more populous than today.).

- a) Graph the production possibilities confronting each country.
- b) What are the opportunity cost ratios in each country before trade?
- c) Assuming *initial* international price ratios are equal to domestic labor cost ratios in each country, would it make sense for Portuguese traders to buy English cloth or wine?
- d) Assume that “Hume’s species flow mechanism” works so that Portuguese prices eventual rise (in terms of international trading prices) so that 1 barrel of Porto wine trades for 1 square yard of English cloth, what are the consumption possibility curves facing each country after trade?
- e) Ricardo assumes that the end result of “free trade” will be that Portugal will specialize in wine, England in cloth, and that both countries will continue to fully employ all their workers and enjoy balanced trade with each other (i.e. they will not experience trade deficits or surpluses), and be able to consume more than they had before trade. Was Ricardo correct?

2. The following schedules summarize the supply and demand for Mana, the national currency of Manali:

US dollars per mana	\$0	\$4	\$8	\$12	\$16	\$20	\$24
Quantity demanded	40	36	32	28	24	20	16
Quantity supplied	1	5	9	13	17	20	25

- a) Graph the supply and demand curves on the next page.
 - b) Determine the equilibrium exchange rate.
 - c) If Manali was running a persistent and significant increase in imports (but no change in exports) over a long period of time, how would this be likely to impact the supply curve for Mana (assume no significant “Capital Account” flows other than those needed to finance the trade deficits)?
 - d) What is likely to happen to the (international currency) dollar value of Mana as a result of these persistent trade deficits?
- 3) If exchange rates are determined by a “freely floating” currency market in a “free trade” regime, will global trade self-adjust toward Current Account balanced trade? Why or why not?
- 4) Why do some climate scientists and policy experts believe that emergency direct climate cooling is now necessary to reduce climate harm (especially in developing countries) to humans and other species and prevent an imminent possible collapse of human civilization?
- 5) What long-term climate policies are necessary to transform our current “industrial hunter-gatherer civilization” to a sustainable and potentially more just and equitable “industrial farmer-cultivator” civilization?

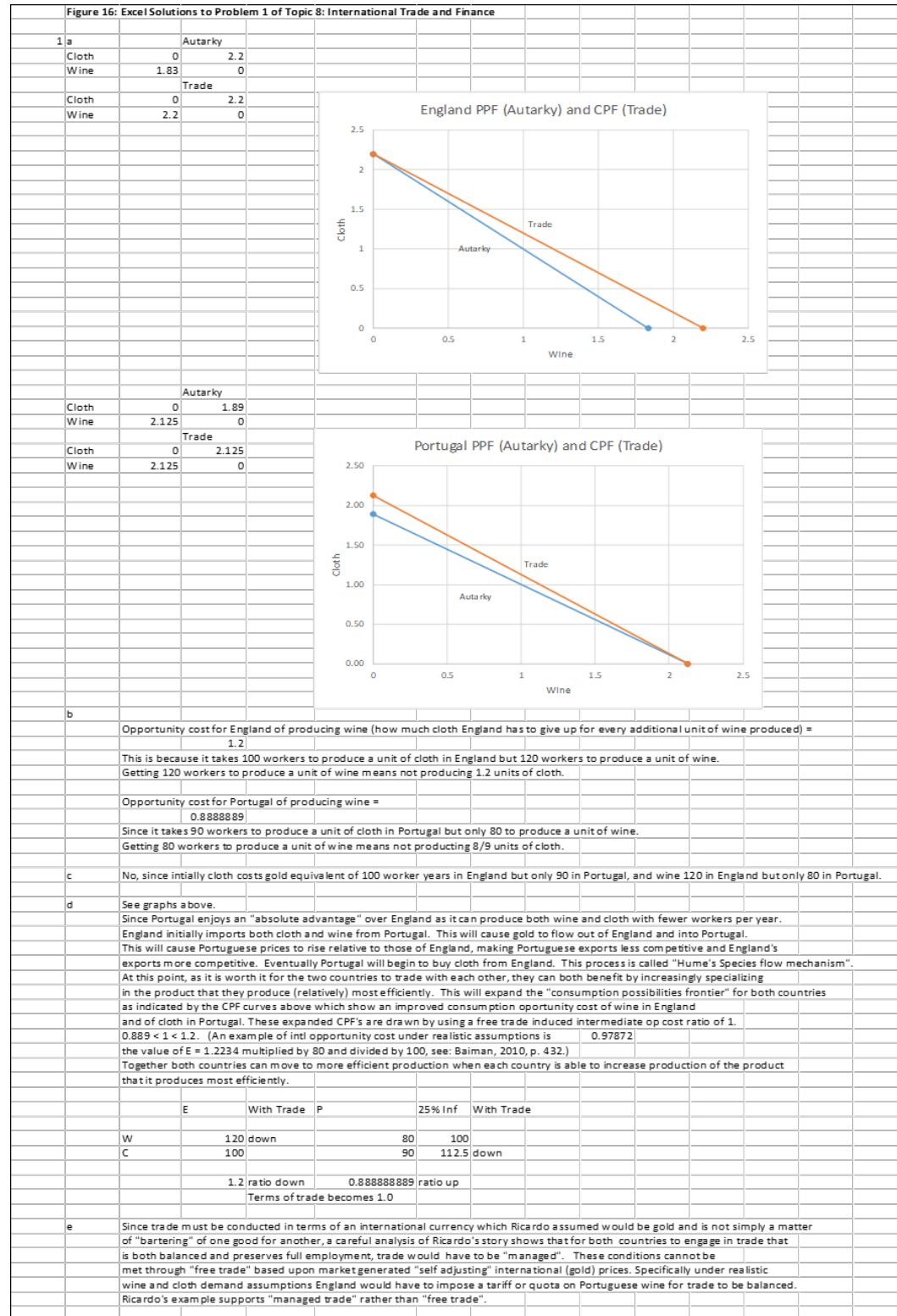


Figure 17: Excel Solutions to Problems 2-5 of Topic 8: International Trade and Finance				
	US dollars per Trifling	Quantity Demanded	Quantity Supplied	Quantity Supplied after Import Increase
2	\$0	40	1	6
	\$4	36	5	10
	\$8	32	9	14
	\$12	28	13	18
	\$16	24	17	22
	\$20	20	20	25
	\$24	16	25	30
a				
b	\$20 dollars and 20 Trifling demanded and supplied.			
c	Mana's persistent import deficit causes the supply of mana (offered to pay for dollars to buy imports) to increase. This will cause the supply curve for Trifling to shift to the right as shown in the graph.			
d	As can be seen in the graph, the new equilibrium price for Mana (where the new quantity supplied intersects the quantity demanded) will be lower than \$20 and equilibrium quantity of Mana supplied (and demanded) will be greater. (Note that standard "supply and demand curve analysis" makes sense for pure exchange situations such as trading of foreign currency even though it does not make sense for produced goods and services in a modern economy.)			
3	A freely floating exchange rate and "free trade" will not produce a "self-adjusting" international trading system for the following reasons: a) Financial Account flows often swamp Current Account flows, especially for major "freely floating" currencies b) Currency depreciation and lower international prices will not produce increased export revenue if price declines more than offset quantity increases c) In a multilateral trading system stable bi-lateral trading between pairs of countries will not generally result in a stable global trading equilibrium (See: Baiman, 2019, <i>The Global Free Trade Error</i> , Chap. 4)			
4	These experts believe that in order to reduce harm to humans and other species and the risk of much more catastrophic climate tipping points we need to immediately cool the planet. As it is simply not realistically possible at this point to achieve global GHG emissions and drawdown the will cool the planet in the short term, this is the only way to avoid further harm and natural and social (human civilization) destabilization, so that we can achieve long term climate stabilization and natural regeneration.			
5	Over the long-term mandatory global GHG emissions and carbon negative investment trading systems must be created or recreated. For-profit markets embedded in government compliance regulations and tax and subsidy regimes to incentivize the development of renewable energy use and Carbon Capture Storage and Use must be developed. Direct public investment in renewable and net-carbon-negative energy and material production that will increase environmental sustainability and equitable economic development must be provided. All are necessary to support a very rapid transition from a one-way carbon combustion and materials "industrial hunter gatherer" to a Human Designed Carbon Cycle Run by Renewable Energy "industrial farmer cultivator" human civilization of the future. This is the moral imperative, challenge, and opportunity, of our epoch that we must immediately and urgently take on. We humans have never faced anything as important for ourselves and our fellow living species on this planet.			

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