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Abstract

The idea of equilibrium and the usefulness of the neoclassical models that employ it are questionable due to the unrealistic built-in assumptions that they utilize, which have androcentric biases and fail to consider the open-endedness of human choice. This essay will replace the idea that neoclassical economic models are effective and that realism does not matter in the field of economics. It will rely on historical and contemporary sources in the areas of Philosophy, Sociology, Politics, and of course, Economics to explain why these unrealistic and androcentric assumptions nullify the usefulness of the neoclassical models that employ them. The essay will also present and reject counterarguments made against my claims by renowned neoclassical economist Milton Friedman. Research on this topic matters because neoclassical models are seen as the mainstream when it comes to the entire field of economics when a lot of their theory and their overarching reliance on mathematics are questionable.

Keywords

neoclassical, realism, assumptions, equilibrium, models, androcentrism

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Abstract The idea of equilibrium and the usefulness of the neoclassical models that employ it are questionable due to the unrealistic built-in assumptions that they utilize, which have androcentric biases and fail to consider the open-endedness of human choice. This essay will replace the idea that neoclassical economic models are effective and that realism does not matter in the field of economics. It will rely on historical and contemporary sources in the areas of Philosophy, Sociology, Politics, and of course, Economics to explain why these unrealistic and androcentric assumptions nullify the usefulness of the neoclassical models that employ them. The essay will also present and reject counterarguments made against my claims by renowned neoclassical economist Milton Friedman. Research on this topic matters because neoclassical models are seen as the mainstream when it comes to the entire field of economics when a lot of their theory and their overarching reliance on mathematics are questionable.

Keywords Neoclassical · Realism · Assumptions · Equilibrium · Models · Androcentrism

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1 Introduction

Realism is integral to the study of economics. After all, economists are tasked with studying the behavior of humans and their actions in the real-world economy. To suggest that economists should utilize models and theories that employ unrealistic built-in assumptions that fail to take into account the open-endedness of human choice, including androcentric biases, is preposterous. These built-in assumptions are put in place in order to try to improve the lack of realism of these models and make them more applicable to the study of the real-world market. However, these assumptions fail in this endeavor, as the models that employ them render the open-endedness of human choice down to these impractical assumptions that are held constant regardless of varying factors. Moreover, the androcentric biases ingrained in these assumptions distort the results of the neoclassical models that utilize them, as they disproportionately weigh the presence and influence of females in the economy as well. Since the conclusions of these models are implicit in their assumptions, this essay will go on to argue against the erroneous assertions made by neoclassical economists on how individuals are expected to work toward the idea of equilibrium and utilize the results of these models if the assumptions that exist within the models are not necessarily correct all of the time (Hayek, 1948, 361).

The main counterargument to these claims is that realism is not important for economics and that the assumptions of neoclassical models are not integral to ensuring its accuracy since the validity of these assumptions can be judged by their empirical results (Friedman, 1953, 14). This counterargument is not substantial enough to debunk the logical thought process against the practical application of these models due to their unrealistic assumptions. This paper will respond by delving further into how it is absurd to deem realism as unimportant because economists are applying the study to real-world activities and how its empirical results depend on its assumptions' accuracy. When it is proven that the thesis is correct, there is a potential for widespread change in terms of the way the world looks at the study of economics from an empirical standpoint, as well as the models that economists utilize to explain the actions of individuals, what influences these actions, and the economy as a whole.

In Section 2 of this paper, I will discuss the relevant literature on this topic, including criticisms on the realism and androcentrism of neoclassical assumptions, as well as the counter-arguments of these criticisms. In Section 3, I will discuss the damaging effects that the lack of realism of neoclassical assumptions has on the effectiveness of their models. This section will include an in-depth look at general equilibrium theory and typical neoclassical assumptions, as well as proposed solutions for their adverse effects. In Section 4, I will talk about the impact that androcentrism has had on the field of economics as a whole. I will also focus on the effects of androcentric biases on the applicability of neoclassical assumptions while also proposing solutions for how to move forward and improve. In Section 5, I will go over Milton Friedman's view on realism in economic analysis as well as rebuttals to his claims. Lastly, in Section 6, I will summarize my paper by presenting my findings throughout my research while also providing potential avenues for future research and the implications this study will have on economics as a whole.

2 Literature Review

2.1 Criticisms on the Realism of Neoclassical Assumptions in Literature

Studies regarding the ineffectiveness of neoclassical economic models have been clearly expressed in a wide variety of economic journals. This criticism largely stems from the models' assumptions, which makes sense as Hamminga and Balzer (1975) describe that an economic model is given by a set of assumptions. Throughout the research, the main criticism of neoclassical models, which can be seen with Becker (1962), McCormick (1989), and Farrell (1993), is their unrealistic built-in assumptions, precisely the assumption that traditional economic behavior is rational. Becker (1962) points to the fact that the term, rational, is outdated and how it assumes unrealistic behavior in the market. Becker (1962) explains that this impractical assumption implies that the market will experience consistent maximization, which is impossible and misconstrues economic and behavior-explaining theories. McCormick (1989) argues against using these models as while they do consider the fact that all humans are self-interested, this does not necessarily equal rationality. Farrell (1993) takes it further and questions if rationality is even quantifiable. Farrel (1993) ultimately suggests that if actors cannot be rational in a sense, the neoclassical models employing the assumption of rationality in the market are impractical.

Bromiley and Papenhausen (2003) go on to suggest an alternative to rational-choice theory, stating that behavioral theory is more advantageous when analyzing economic markets as it does not have unrealistic assumptions that limit the correctness of its results. Solow (1956) also discusses the effect of incorrect assumptions on economic growth models, and he argues against using these models due to this. In addition to this main criticism revolving around the lack of realism in rational-choice theory, Bagchi (2017) points out that these models and the idea of equilibrium do not include money, negating their practicalness. The fact that money is absent in economic theory is illogical. Kirzner (1997) places it as the main reason why these neoclassical models wrongly nullify the open-endedness of human choice and are, therefore, ineffective. The logicalness of these models is also a widely-held criticism. Mises (1949), in which is considered his magnum opus, “Human Action”, also talks about how humans have a logical structure with the aim to select the best means of satisfying ends, despite all having different information about the market. These neoclassical models assume that individuals in the market will act with perfect information and that the tastes of individuals are unchanging and exogenous. Mises’ (1949) work proves that this is not true, rejecting the notion of positivism that the market shapes an individual's actions and that, in fact, the individual acts within their own consciousness.

2.2 Criticisms on the Androcentrism of Neoclassical Assumptions in Literature

Another criticism of these neoclassical models is the presence of androcentrism in their assumptions. This issue is minimally discussed within the field and makes this paper more unique. Rothschild (2014) gives a background on what gender bias is, describing it as favoritism of one gender over another, and Wooley (1993) highlights the challenges regarding gender equality for females in economics. England (2002) points out that gender bias makes neoclassical economics imbalanced, as economists tend to favor the male experience over the female experience when crafting the assumptions of their model and theories. In addition to the fact that these assumptions distort the results garnered from neoclassical economic models, England (2002) also mentions that these assumptions also point to the fact that these biases lead to the furthering of male interests as they take attention away from the female experience in markets. England (1989), in her previous work, also talks about how rational-choice theory also has androcentric biases that plague its assumptions.

2.3 Counter-Arguments to Criticisms of Neoclassical Assumptions in Literature

While the fact that the built-in assumptions of these neoclassical models are undeniable, famous neoclassical economist Milton Friedman (1953), argues that realism is unimportant for economics. Friedman (1953) explicitly argued that the realism of the assumptions of neoclassical models is not integral to ensuring its accuracy because their empirical results can judge the validity of these assumptions. This paper will utilize evidence from Mises (1949) to argue against the positivism littered throughout Friedman's (1953) claims, as well as Nagel's (1963) work to argue against

Friedman's lack of firm support in his writing. Hayek's (1948) work, "The Meaning of Competition", will also be used to disprove Friedman's counterargument to the thesis. In his work, Hayek (1948) pointed out how a model's conclusions are implicit in its assumptions, which led to this paper, and the further exploration into research about questioning the effectiveness of neoclassical models, such as perfect competition.

3 The Effects of Unrealistic Built-in Assumptions on Neoclassical Economic Models

3.1 The Inefficient Role of Neoclassical Assumptions in General Equilibrium Theory

The role of neoclassical models is aimed at explaining the actions of the market, such as production, consumption, and pricing, through the focus on the law of supply and demand. The models are concerned with figuring out the efficient allocation of resources. To figure this out, the models possess an intrinsic overreliance on mathematics and impractical assumptions. A prime example of the misuse of mathematics in neoclassical models is with general equilibrium theory. This model assumes that "All markets exist in all time commodities for all time to come" (Bagchi 2017, 4). Therefore at any point of equilibrium, goods and prices are set forever, meaning that if there is any change to the market, you move into an entirely different world (Bagchi 2017, 4). This nullifies the potential for comparing two different economic outcomes, diminishing the model's usefulness. The model has also experienced many failed attempts to introduce money into its theory (Bagchi 2017, 4). It is bewildering that money can not be involved in this economic model, and it shows its lack of applicability to the real world.

3.2 The Unquantifiable and Unrealistic Nature of Rational-Choice Theory

The assumption that all individuals are rational in the economy is another example of the unrealistic nature of neoclassical models. The idea of rationality is questionable in and of itself, and it is seemingly unquantifiable. Critics have described this long-held mainstream assumption as an outdated term that presumes unrealistic behavior (Becker 1962, 1). In his paper, “Utility-maximizing Intentions and the Theory of Rational Choice”, Farrell discusses a scenario that exhibits this. The scenario goes as follows: a billionaire guarantees you a million dollars if you intend to consume a drink with toxins that will make you sick for a couple of days at noon tomorrow (Farell 1993, 53). The billionaire specifies that the deal is off if you ensure that your intention is not to consume the drink with toxins between the time he proposes and the time you are supposed to drink it (Farell 1993, 53). Farrell then argues that consuming the drink with toxins is irrational if you can merely get the million dollars by intending to do so (Farell 1993, 53). However, he also notes that it is impossible for an individual to intend to drink the toxins if they believe it is irrational (Farell 1993, 53). The situation could also be looked at from a lens that it is questionable whether it is rational to take the million dollars and be sick for a couple of days or reject the potential of sickness and a million dollars. This scenario shows that the idea of rationality is complex with not clearly defined parameters, making it pointless to use a universal assumption in economics as the possibilities of human choice are endless.

3.3 The Impracticality of the Assumption of Individual Utility-Maximization

Another mainstream economic assumption is that individuals are strictly utility-maximizing actors. These assumptions render the open-endedness of human choice into forgone and useless conclusions. This means that if an individual is assumed to be a utility-maximizing actor, then that individual does everything to maximize their own utility, regardless of how irrational they may seem to someone else (McCormick 1989, 314). The assumption that individuals are strictly utility-maximizing actors only points to the fact that individuals are confined to a set of given prices as well as their income and are to make decisions based on their preference scale (McCormick 1989, 314). The idea of a utility-maximizing preference scale is particularly questionable. It is impossible to quantify the utility rankings and preferences needed on an individual basis for an entire economy. Quantifying this is doing a disservice to the field of economics as portraying individual decision-making as a mechanical exercise in constrained maximization accomplishes rendering the uniqueness of human choice into statistical probabilities and presumptions (Kirzner 1997, 64). This makes it invalid in terms of explaining and predicting economic behavior. It is also important to note that this assumption does not require rationality or self-consciousness when making economic decisions. This leads both the assumptions of utility-maximization and rationality to contradict each other. These are wide-held assumptions that are seen as the mainstream, which ultimately nullify their model's effectiveness in predicting economic behavior.

3.4 Other Notable Unrealistic Assumptions

Other notable assumptions typically held by many neoclassical models are that the tastes of individuals are unchanging and exogenous, that individuals act on perfect information of the market, and that interpersonal utility comparisons are impossible. Similar to the issues with utility-maximization, suggesting that individuals are not the ones making conscious choices in the markets and that their preferences are scaled by a given set of goods and prices is an unreasonable assumption to hold when predicting economic behavior. This is far from the case, as "It is impossible for the human mind to conceive logical relations at variance with the logical structure of our mind", particularly for an entire economy (Mises 1949, 25). The assumption that individuals act on perfect market information is a notion of positivism, which is a philosophical theory widely held by neoclassical economists that maintain that all genuine knowledge is true by definition. Mises describes positivism as a theory devoid of a scientific foundation, making it useless for research and economic analysis (Mises 1949, 17-18). It is absurd to assume that every individual has perfect knowledge of the market, and this assumption invalidates the results of the models that suppose it. Presuming that interpersonal utility comparisons are impossible is unrealistic as it deems that individuals are not emotionally connected and are strictly influenced by the market, not by themselves. This leads to the notion of a separative self in neoclassical economics, which is problematic when performing economic analysis, as individuals are not autonomous, but rather are governed by their own consciousness (England 2002, 158).

3.5 Proposed Solutions: A Behavioral Approach

It is undeniable that "... all theory depends on assumptions which are not quite true" as this makes theory what it is (Solow 1956, 65). This paper is not expressing the idea that all theories with unrealistic assumptions are false and pointless. However, when crucial assumptions heavily affect the results of the models, this is when the results of these models should be questioned (Solow 1956, 65). The assumptions previously mentioned are chief examples of this, as the empirical evidence rejects them. A possible solution to these limiting assumptions would be for these neoclassical models to shift from rational-choice theory and equilibrium to a behavioral approach (Bromiley & Papenhausen 2003, 413). This strategy is based on a behavioral view that "... accepts psychological and sociological findings about organizations" (Bromiley & Papenhausen 2003, 419). Instead of relying on assumptions that deem the actions of individuals to foregone conclusions strictly focused on utility-maximization and the unquantifiable idea of rationality, economists should make the reasonable assumption that "... people could change their behavior in ways that may improve their performance" (Bromiley & Papenhausen 2003, 419). If the field of economics goes down this route and makes this behavioral approach the mainstream, the practicalness and accuracy of these models can be guaranteed.

4 Androcentrism in Neoclassical Economics

4.1 Background of Androcentrism in Economics

In addition to the unrealistic built-in assumptions that misconstrue the results of neoclassical economic models, there is an underlying bias of androcentrism rooted in the basic structure of neoclassical economics. This bias influences the assumptions of these models as well. Androcentrism is a form of gender bias, which is "... favoritism of one gender over another" and is usually attributed to the favoritism of men over women (Rothchild 2014). Androcentrism in economics is when these assumptions are "... biased in favor of men's interests" (England 2002, 154). Because of this, the interests of men have been furthered regarding economic analysis, with the female perspective put to the wayside. Pointing out these androcentric biases also takes into account that these assumptions presume that humans are autonomous beings that are not affected by empathy or social influences (England 2002, 154). These biased assumptions are highly damaging to the accuracy of economic analysis and the usefulness of these economic models and theories. The four specific assumptions that this section will be focusing on are: (1) that interpersonal utility comparisons are impossible; (2) the tastes of individuals are unchanging and exogenous; (3) individuals are strictly utility-maximizing actors, and (4) individuals are rational. While this paper previously discussed the unrealistic nature of these behavioral assumptions, this section will speak specifically to the implications related to their androcentric biases.

4.2 Issues with Androcentric Biases in Neoclassical Assumptions

The assumption that interpersonal utility comparisons are impossible has an androcentric bias in the way that it negates the possibility for individuals in the market to possess empathy (England 2002, 158). Females tend to be more empathetic than males, so the absence of the possibility of empathy from these models highlights the androcentric bias. This neoclassical principle is also applicable to groups in the economy. Presuming that utility comparisons are impossible on a group level leads to a lack of research into generalizations such as that women are more disadvantaged than men in the market, which further exacerbates the apparent male-centered bias (England 2002, 158). While it is evident that the second assumption that the tastes of individuals are unchanging and exogenous is unreasonable, its intrinsic androcentric biases also have a significant effect on its lack of realism. Dismissing the endogeneity of preferences obscures "...some of the processes through which gender inequality is perpetuated" (England 2002, 159). Making this assumption eliminates potential scenarios where male-centered field employers discriminate against women, and women want to alter their preferences to different field employers (England 2002, 159). This has the potential to affect the tastes of the next generations as this discrimination and lack of ability to change preferences for individuals in the field of economics creates gender-related tastes, which could further perpetuate women's lower earnings for generations to come (England 2002, 159).

The third assumption is that individuals are strictly utility-maximizing actors, which also presumes that individuals are selfish. It is important to note that self-interest does not necessarily mean selfishness. While it is agreeable that individuals are self-interested, it does not mean that they do not care for others. This altruistic assumption invalidates the possibility for an individual to care for the needs of a child or to mentor a student, which are female-dominated roles in society (England 2002, 160). This assumption also does not support the possibility for employers to prefer a worker over their gender, which is not valid. Neoclassical economists should assume selective altruism instead of altruism in totality in order to be able to take into account that discrimination is present in competitive markets, as individuals have conscious biases (England 2002, 161). Finally, it is imperative that this paper speaks to the androcentric biases that come with rational-choice theory. The feminist critique of the assumption that individuals are rational comes with the fact that rationality is seen as radically separate from emotion (England 1989, 21). This distorts the neoclassical conceptualization of rationality as individuals are emotional beings, and their preferences are affected by this. Women are typically more emotional than men, which shows the inherent male-centered bias in these neoclassical models.

4.3 Proposed Solutions: An Equitable Approach

These assumptions further the interests of men and direct our attention away from "the ways in which typical arrangements between men and women perpetuate women's disadvantage both in their families and in labor markets" (England 2002, 161). These are the significant effects of these androcentric biases that affirm that mainstream economists can learn more from feminist economists in order to "...be more attentive to gender biases in economic work and in the world" (Woolley 1993, 485). Neoclassical economists must neutralize the effects of these biases by recognizing the variability of selfishness, the possibility of interpersonal utility comparisons, individuals' tastes as changeable and endogenous, and the emotional aspect of rationality (England 1989, 22-23). This will allow for a more equitable approach to economic analysis as there will be a heightened focus on the economic well-being of women, leading to more policies that promote equality (Woolley 1993, 486-497).

5 Counter-Argument: A Neoclassical Economist's View on 'Unrealistic' Assumptions and A Response to Milton Friedman

Despite the critics, neoclassical economists remain firm in their beliefs on the validity of their models, despite the intrinsic unrealism. This firmness helps the neoclassical school of thought stay as the mainstream. Milton Friedman is among the former intellectual leaders of the neoclassical school of economic thought, which is associated with the University of Chicago. Friedman, a Nobel Memorial Prize recipient, was a very influential economist, specifically in the fields of consumption analysis and monetary theory. One of his notable books, "The Methodology of Positive Economics", embodies these firm beliefs. The key rebuttal in the book to the notion that the unrealistic nature of the assumptions of neoclassical models distorts their results is that realism is not important for economics (Friedman, 1953, 14). Friedman maintains that the assumptions of neoclassical models are not integral to ensuring their accuracy since the validity of these assumptions can be judged by their empirical results (Friedman, 1953, 14).

Regarding Friedman's counterargument, the notion that realistic assumptions are not integral to ensuring the accuracy of these models due to empirical research is a flawed assertion. As Friedrich Hayek, a renowned Austrian economist, states concerning economic modeling, "Its conclusions are implicit in its assumptions" (Hayek, 1948, 361). The assumptions of a model shape the results, regardless if it is being studied empirically or not. The assumptions of these neoclassical models are at the center of the explanations garnered from them. Ernest Nagel's critique of Friedman's defense of the unrealistic assumptions commonly found in neoclassical economics, "Assumptions in Economic Theory", also speaks to this by stating "... if by an assumption of a theory we understand one of the theory's fundamental statements, a theory with an unrealistic assumption is patently unsatisfactory; for such a theory entails consequences that are incompatible with observed fact, so that on pain of rejecting elementary logical canons the theory must also be rejected" (Nagel 1963, 215). Nagel also points out the ambiguity of Friedman's claims, and this assertion is a quality example of Friedman's lack of firm support for his arguments (Nagel 1963, 218). An example of a model where the assumptions are fundamental to its meaning would be the perfect competition model, which has numerous unrealistic and idealized assumptions that are impossible. These unrealistic assumptions, such as individuals having perfect market information, firms being strictly profit-maximizers, and that all products are homogenous, are central tenets of the theory. Since these assumptions can tell the tale of the fundamental idea of this theory, its results are invalid. This debunks Friedman's claims that realism does not matter for economics, as it is a crucial component to ensure the accuracy of economic analysis.

6 Conclusion and Findings

Challenging the mainstream is paramount to progressing the quality and accuracy of economic analysis. The unrealistic nature of neoclassical assumptions and the underlying androcentric bias that influences these assumptions need to be confronted. If realism continues to be disregarded in relation to economic analysis, the applicability and precision of the results will continue to remain invalid. In order to combat this, the field of economics needs to start by explaining the faults of these mainstream economic models, theories, and their assumptions through education. Too often, these neoclassical models are held as the norm, leaving little room for students and professors to challenge them. The field should also start incorporating different schools of thought more heavily, such as the Keynesian and Austrian schools of thought. This will balance the field and ensure that the status quo will be challenged appropriately.

Regarding the neoclassical models themselves, neoclassical economists can improve the accuracy of these models by utilizing the strategy of a behavioral approach. Neoclassical models need to assume that individuals are unique and have the ability to change their behavior in ways to improve their performance. The notion of rationality also needs to be questioned and abandoned when making assumptions regarding economic theory, as the nature of rationality makes it unquantifiable. The androcentric bias also needs to be eliminated as these models disregard the female perspective in the economy, choosing only to focus on the male perspective. Specifically, neoclassical economists need to assume the ability of individuals in the economy to feel empathy and emotion when making decisions, as this is the reality, especially for females. By going down this route, there will be widespread change in the way economic analysis is approached from an empirical standpoint as the models will more efficiently explain the actions of individuals, what influences these actions, and the economy as a whole.

With that said, and given the novel contribution of this paper, the question of how to effectively improve on these unrealistic assumptions and the overarching discussion on whether realism is essential in economic analysis is worth continued exploration. The direction offered by this paper could apply to the development of new approaches to economic analysis, as well as a new approach to mainstream economic theory overall. If investigated further, the lack of real-world application of neoclassical models and the lack of balance between considering both the female and male experience in the economy could be solved. If successfully investigated, it could lead to more accurate economic analysis and could also solve the issue of the female population experiencing inherent disadvantages in the economic realm. With more accurate assumptions in terms of gender, it could lead to more economic policies that promote equality, which could lead to a decreased gender pay gap. Overall, if the findings of this paper are further investigated, it will improve the field of economics in terms of education, analysis, and equality.

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