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How does theories of economics contribute to the Sustainable development concept formation?

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Abstract

This article delves into the nuanced influence of diverse economic theories on the concept of sustainable development, spanning economic, social, and environmental dimensions with intricate complexity. It elucidates the varying perspectives on the sustainability of economic growth and the evolving ethical discourse within economics, offering valuable insights into their implications for sustainable development efforts. Through an exploration of economic development, the article investigates the dynamic interplay between international dependence and liberal theory, drawing parallels among the ideas of influential economists like Karl Marx, Adam Smith, and David Ricardo. It highlights the inherent link between economic and social spheres, particularly emphasizing income distribution's pivotal role in addressing real-world challenges and advancing sustainability objectives. Furthermore, the article delves into social development by examining Amartya Sen's capability approach, which breathes new life into classical economic concepts by emphasizing individual agency. It contrasts prevailing economic paradigms and their consequences for sustainable development. Finally, in the environmental realm, the article discusses resource and environmental economics alongside ecological economics, presenting nuanced interpretations of sustainability rooted in either neoclassical or classical theory. This comprehensive analysis provides valuable insights into the complex landscape of sustainable development, aiming to inform and guide future endeavors in this critical field.

Keywords: Economics; Economic theory; Sustainable Development; Economic development, Social development; Environmental development; Ethics; Concept.

1 Introduction

In the wake of the industrial era, humanity's trajectory has inadvertently led to a cascade of climate disruptions, environmental catastrophes, societal discord, and economic turbulence [(1)]. This concerning pattern has placed future generations at risk, compelling an urgent and, at times, contentious shift toward more prudent and effective management of our natural resources [(2,3)]. Central to this urgency is the Earth's ecological limit, encapsulated by the planetary boundaries delineating the intricate interplay between economic, social, and ecological dimensions of development while underscoring nature's finite

capacity. Indeed, the sustainability of our planet stands as the bedrock for all life forms, underpinning economic prosperity and societal resilience [(4)].

Planetary boundaries, immutable constraints beyond human manipulation, underscore the imperative of safeguarding and nurturing nature as the bedrock of sustainable existence. Within the development realm, a paradigm shift towards sustainability becomes paramount [(5)]. Such a transition necessitates a holistic approach encompassing ecological, social, and economic facets aimed at mitigating and adapting to the multifaceted challenges we face [(6)]. At its core, the concept of strong sustainability advocates for preserving and enhancing natural capital—a prerequisite for enduring prosperity [(7)]. The notion of 'responsible behaviour' transcends mere aspiration; it epitomizes the bedrock of sustainable development, constituting a compelling call to action that impels us to navigate towards a future where the welfare of both humanity and the planet are safeguarded for generations to come [(2,3)].

Throughout the annals of human history, the seeds of progress and development have been sown, tracing back to the classical Greco-Roman era. However, the concept of sustainable development, with its profound implications for the longevity of our planet, found its roots much later, emerging tentatively in the 18th century within the realm of forestry management. This nascent understanding of sustainability focused predominantly on the prudent stewardship of renewable natural resources, thus laying the groundwork for future discourse [(8)]. Early economic analyses, drawing inspiration from the seminal works of thinkers like Malthus and Ricardo, grappled with the spectre of resource scarcity. The finite nature of agricultural land could curb economic expansion and societal progress, casting a shadow over aspirations for improved living standards [(9)]. While these early inquiries flirted with sustainability principles, the term 'sustainable development' did not crystallize until the late 20th century, spurred by mounting apprehensions about an impending global ecological reckoning [(8)]. Since then, the world has increasingly prioritized the pursuit of sustainable development [(9)], culminating in the launch of the 2030 agenda, which comprises 17 global goals for sustainable development, in 2015 [(10)].

The discipline of economics undeniably holds a pivotal and indispensable role in addressing the challenge of sustainable development. At the crux of sustainable development lies the fundamental question of allocating finite Earth resources to sustainably meet present and future needs [(11)]. Similarly, economics, a key player in this allocation, revolves around the concepts of scarcity, choice, and opportunity cost. It delves into the essential drivers of development, encompassing the production, consumption and distribution of goods and services vital for enhancing living standards, including provisions for food, shelter, and other basic human necessities. Moreover, economics explores the interplay of human activities and the underlying reasons behind the ongoing changes in Earth systems. By integrating economics with earth science, a comprehensive understanding of various alternatives' positive and negative impacts and their trade-offs can be achieved. Additionally, economics and social and behavioural sciences elucidate potential pathways for shifting human behaviour towards achieving sustainable development objectives. Furthermore, specialized fields within economics, such as development, ecological, environmental, and natural resource economics, contribute extensive research relevant to sustainable development challenges. Therefore, grasping economic principles and empirical findings is not merely beneficial but indispensable in striving to fulfil humanity's aspirations for a prosperous existence while effectively managing the allocation of scarce resources.

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Given these considerations, the interplay between various disciplines within economics, the evolution of economic theories throughout history, and their intersection with the concept of sustainable development have become subjects of profound academic interest within the scientific community today. This paper, therefore, is not just an endeavor but also a timely and relevant contribution to elucidating the essence of economics with the concept of sustainable development.

The core aim of this article is to enhance the depth of theoretical discourse concerning the impact of various economic theories on the conceptual underpinnings of sustainable development. It intends to meticulously explore the origins of 'sustainable development' and shed light on the universally recognized definition formulated by the Brundtland Commission. This definition is revered for its steadfast adherence to fundamental principles relevant to the subject matter and its interconnected domains. Moreover, the article seeks to facilitate the comprehension of economic concepts and theories relevant to sustainable development for a broad audience, including students, policymakers, and individuals from various backgrounds. By fostering understanding among diverse groups, it aims to engage them actively in the ongoing discourse. Thus by emphasizing the significance of adopting a holistic and values-driven approach to transformative dialogues, the article underscores the imperative of transcending silo thinking to catalyze the much-needed societal transformation.

2 Definitions of Economics

The definition of economics is not singular, given its evolving complexity and the integration of various perspectives. Different definitions of economics offer distinct viewpoints on the economy's relationship to society and individuals. Among the most renowned definitions are Adam Smith, Alfred Marshall, Lionel Robbins, and Paul Samuelson. This section concisely reviews these definitions, highlighting their unique contributions to economic thought.

Adam Smith, the seminal figure in economics, in his groundbreaking work [(12)], introduced the term 'political economy' to encompass his vision of economics as a study of the nature and causes of the wealth of nations [(13)]. He further elucidated it as a branch of the science of a statesman or legislator, delineating its dual objectives: firstly, to ensure abundant revenue or subsistence for the populace, empowering them to sustain themselves, and secondly, to furnish the state or commonwealth with sufficient revenue for public services. Smith's framework aims to enrich the populace and the sovereign [(13)]. According to Smith, economics delves into how nations generate wealth and the equitable distribution thereof. Central to Smith's concept is economic growth, predicated on the proliferation of the division of labour. He believed the economic system is a product of labour and its organization, emphasizing labour as the primary driver of wealth creation within a nation [(12)].

Alfred Marshall, a pivotal figure in economic thought, characterized political economy or economics as the study of humanity engaged in the routine affairs of life. He contended that it examines the facets of individual and social action most intimately linked with acquiring and utilizing material requisites for well-being. Marshall delineated economics as a dual pursuit: on the one hand, an exploration of wealth, and on the other, a fundamental inquiry into human nature [(14)]. Marshall posited that individuals inherently prioritize their self-interest in their daily endeavors or acquiring material resources. He delved into the intricacies of individual actions and the genesis of preferences while also analyzing the development of

human character in response to environmental stimuli. Marshall emphasized the interconnectedness of human activity within social groups, advocating for examining human behaviour concerning its societal context. In his view, economics serves as a means to gauge the expression of desires and intentions, utilizing money as a unit of measurement [(14,15)].

In his influential work 'Essay on the Nature and Importance of Economic Science,' Lionel Robbins redefined economics as examining human behaviour in light of scarce resources with alternative uses [(16)]. His interpretation, which departs from previous definitions, underscores the dynamic nature of economic thought. Robbins' focus on decision-making amidst scarcity and infinite human desires reflects the evolution of microeconomic analysis, highlighting the pivotal roles of scarcity and decision-making in economic processes. This section explores the nuances of Robbins' definition, inviting readers to appreciate the evolution of economic thought [(15)].

Paul Samuelson extends the scope of economics beyond the mere production, consumption, exchange, and distribution of goods to include considerations of wealth, well-being, and scarcity. His viewpoint resonates with the principles of sustainable development and intergenerational fairness, stressing how societies manage finite resources to meet the needs of current and future generations. Samuelson's approach transcends individual actions, shifting the focus to broader societal dynamics and the necessity of growth within a framework of scarcity. His holistic and forward-thinking perspective acknowledges the significance of present prosperity and future sustainability [(15,17,18)]. In essence, as succinctly expressed by Burke, economics examines the allocation of limited resources by societies to create valuable goods and services and their distribution among different individuals [(19)].

3 Brundtland report and 'Sustainable development' definition

Amidst the oil price fluctuations of 1972–73, sustainability concerns began to emerge. However, the issue failed to prompt widespread social consciousness regarding resource conservation and adopting alternative practices until the groundbreaking publication of the Brundtland report in 1987 [(11,20,21)]. This report, a turning point in global environmental discourse, sparked widespread interest. In the 1990s, the concept of 'sustainable development' became one of the main discussion topics, first in Europe and later internationally [(22,23)]. The report underscored the imperative for collective action toward predefined common objectives. It delineated a seminal definition of sustainable development as a concept that satisfies present needs without compromising future generations [(11)]. The Brundtland report defines sustainable development as a combination of three essential elements. Firstly, development should focus on achieving socio-economic progress within the ecological limits. Secondly, there is a need to prioritize the redistribution of resources to ensure a high quality of life for all members of society. Finally, responsible utilization of resources is necessary to safeguard the quality of life required by future generations [(11)].

Klarin [(3)] asserts that at the core of sustainable development is Elkington's [(24)] concept of the 'triple bottom line,' which encapsulates the "three P's": profit, people, and planet. These three categories serve as a framework to understand environmental responsibility and evaluate the social impacts of human activities. Therefore, sustainable development encompasses the natural, social, and human capital necessary for income generation and the maintenance of living standards. A key aspect of this concept that should resonate deeply with our moral compass is the delicate balance between environmental, social, and

economic progress [(6)]. The concept also incorporates ethical considerations and a profound commitment to the well-being of both current and future generations [(25)].

While the definition of sustainable development is a subject of ongoing debate, it can be understood as a dynamic and ever-evolving process that strives to ensure the needs and security of communities, enhance the overall quality of life and equality, preserve biodiversity and ecosystems, and protect natural resources. Achieving sustainable development necessitates a balanced pursuit of human and environmental well-being, social equity, and economic prosperity, all underpinned by ethical commitments, values, and concern for the welfare and opportunities of present and future generations. In essence, sustainable development is grounded in ethical imperatives, aiming to maintain a harmonious balance between economic growths, environmental stewardship, and societal well-being, while fulfilling the current generations need without compromising the prospects of future eras.

4. Economic ideologies and theories: navigating the intersection of Economy, Development, and Growth Influencers

This section provides a concise overview of a range of economic ideas and theories developed by esteemed economists that are relevant to the concept of sustainable development. It delves into the perspectives offered by classical and neoclassical economists, as well as more recent theories such as ecological economics and institutional economics, which also pertain to economic development and growth.

4.1 Thoughts and theories of the classical key economists

Classical economists have significantly shaped the pragmatic liberal concept of economics, advocating for limited political intervention in fostering societal and individual prosperity. At the core of this philosophy is the assertion that competition in the market for goods and services represents the most efficient mechanism for allocating scarce resources [(26)]. The key researchers Adam Smith, Jean-Baptiste Say, David Ricardo, Karl Marx, Thomas Robert Malthus, and John Stuart Mill have left an indelible mark on economic thought between the late 18th and mid-19th centuries.

In his writings, Adam Smith emphasizes the importance of individual decision-making without external intervention to achieve the best outcome for all [(12,27)]. He believed that individuals should be motivated, either for their benefit or for altruistic reasons, to make decisions freely without the intervention of society. In addition to altruism, other motives, such as fairness and justice, promote civilization [(28,29)]. Smith also argued that people can use their imagination to think and feel the suffering of others and perhaps even put themselves in the position of the sufferers [(30,31)]. To Smith, these are decisive factors in good competition in a market interaction where violence and cheating are not accepted. In this way, it is possible to support building people's mutual trust, repeat transactions, and acquire materials [(32)].

Smith posited that a nation's economic growth hinges upon the interplay between productivity and the size of its workforce. In a market system, productivity growth is primarily propelled by capital accumulation and the division of labour, which refers to the specialization of tasks within a production process. The accumulation of capital facilitates an expansion of the division of labour, consequently boosting productivity. However, the decision to divide labour is not solely driven by the quest for higher productivity; human negotiation tendencies, barter practices, and market size influence it. Smith

emphasised that labour productivity significantly impacts the division of labour, underscoring the importance of skilled labour in achieving higher output. Thus, fostering better education and improving workers' skill sets are imperative [(12,33)]. Smith further contended that the extent of the market sets limits on the degree of division of labour, with a more substantial market rendering division of labour more profitable. Conversely, inadequate market demand hampers large-scale production and leads to underutilization of capital. To address this issue, Smith advocated for expanding goods markets through international trade [(27,34–37)].

According to Smith, economic growth is intricately tied to capital accumulation and circulation. Increasing productivity enables individuals to save more, thereby generating capital that can be reinvested. This cycle fosters greater specialization and heightened productivity, driving economic growth [(38,39)]. Moreover, Smith believed global trade could be mutually beneficial, even if countries do not have equal advantages. Specialization and division of labour allow nations to produce specific goods more efficiently, bolstering their economies. Smith's advantage theory underscores the idea that countries should produce and export goods in which they have an absolute advantage while they should import those where they lack such an advantage [(12)]. This strategy optimizes wealth creation through production specialization, enabling individuals to get essentials like food, clothing, and shelter based on their productivity levels.

The French economist Jean-Baptiste Say later defended and expanded Adam Smith's doctrines. According to him, economic growth could be achieved by increasing production, not demand. He advocated the subjective utility theory of value, which posits that the value of a good is determined by the individual's perception of its usefulness or satisfaction it provides, instead of the labour theory of value. Say presented utility as an economic truth established through induction. Say's law of the markets is based on two propositions: people's desire for goods and purchasing power [(40,41)]. Say argued that in order to buy, there must be something to sell. So, all purchasers must first be producers because only production can generate purchasing power. For Say, the source of demand is production, and money is simply a tool that facilitates production and exchange. According to him, an individual's ability to demand goods or services depends on the income produced by their own production. For example, the ability of individuals to demand food, clothing, housing and other things is based on the productivity of individuals' labour and non-labour resources. According to Say, wealth is therefore created in production, not consumption.

Say elucidated that certain products possess broader markets than others, aligning with Smith's assertion that market extent constrains the division of labour. He posited that commodities or services tend to attract the most extensive demand in areas with the highest values, as these locales create the primary means of purchase—values. Say substantiated this assertion by illustrating how an entrepreneur would prefer conducting business in a bustling metropolis over a remote small town. The abundance of competitors in large cities fosters a robust market environment conducive to business expansion, as numerous sellers indicate a corresponding pool of buyers. Operating into a broader market facilitates increased interaction and profit maximization, as many sellers double as potential buyers [(42)]. However, Say emphasized that this process is effective only when rooted in genuine production, not product-forced circulation. He cautioned against mistaking mere consumption encouragement as beneficial to commerce, arguing that the crux lies in supplying the means rather than stimulating consumption desires. According to Say, production alone furnishes the means necessary for commerce, rendering the encouragement of consumption alone ineffectual. In essence, Say's analysis underscores the pivotal role of genuine production in driving commerce and the necessity of fostering real market interactions for sustainable economic growth. Say's

law embodies an ex-ante equilibrium between aggregate demand and supply while dispelling the myth of the 'lump of labour' fallacy. He staunchly refutes the notion of overproduction, arguing that production inherently generates purchasing power, ensuring sellers can always find buyers. He asserts that economic growth can occur autonomously by introducing new goods or services into the market, where successful ventures contribute to lasting expansion in total supply and demand [(42,43)].

David Ricardo, heavily influenced by Adam Smith's writings, proposed a comprehensive framework for understanding society, industry, and the division of labour. He delineated three social classes—workers, capitalists, and landowners—each corresponding to distinct income categories: wages, profits, and rents. Ricardo asserted that these classes are chiefly responsible for all societal production and the distribution of wages, rents, and profits. Ricardo conceptualized the division of labour as a sort of partition where various processes determine the shares of wages, rents, and profits. He argued that allocating these shares depends on the hours dedicated to production, capital accumulation, and investments, which dictate production levels and output capacities [(44,45)]. According to Ricardo, capitalists perpetually seek profits, utilizing their savings to hire more labour or reinvest in various ventures. The capital accumulated by capitalists' fuels economic activity, benefiting workers as well. However, Ricardo noted that worker wage increases are temporary, as an influx of labour drives wages back toward subsistence levels. Moreover, Ricardo observed that increased demand for goods fosters market competition and expansion opportunities, leading to heightened demand for land. Land rents vary based on soil fertility, with more productive lands commanding higher rents. Conversely, capitalists investing in less fertile regions encounter higher production costs, diminishing profit margins. Ricardo cautioned that economic growth spurred by capital accumulation becomes unsustainable when rising rents impede savings and accumulation. Additionally, he noted the limitation of Smith's concept of absolute advantage, proposing the theory of comparative advantage as a more nuanced approach. This theory advocates for countries to specialize in and export goods where they have a relative or comparative advantage in production [(33,44,46)].

Karl Marx's scathing critique of capitalists delves into the stark inequalities inherent in capitalist societies. Marx argued that capitalists, a small elite, wield disproportionate control over the nation's capital, siphoning off the majority of surplus value produced by labour and relegating workers to meagre wages—barely scratching the surface of the true value of their labour [(47–50)]. This exploitative dynamic, Marx posited, creates a crisis of low consumption and overproduction. Low-wage workers lack the purchasing power to consume the entirety of the output, as capitalists withhold a significant portion of the value that rightfully belongs to the workers. Additionally, Marx argued that mechanization exacerbates these issues by intensifying the need for capital while diminishing the role of labour, thereby reducing overall profitability [(47)].

Marx believed that capitalism harbours the seeds of its own demise, citing the widening income gap between developed and emerging nations as a central factor. He observed that merchant capital, acting as an agent of productive capital, perpetuates underdevelopment in backward nations. Marx posited that capitalism becomes an intolerable force ripe for revolution when it renders the vast majority of humanity propertyless, thereby exacerbating contradictions between a world of wealth and culture and widespread poverty [(47,50–52)]. These assertions led Marxist theorists to view persistent poverty as a direct consequence of capitalist exploitation. They concluded that poverty arises from the inflexible division of labour inherent in capitalist societies, which enriches the few at the expense of the many [(53)].

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Thomas Robert Malthus delved into the intricacies of development, focusing on the inverse relationship between population growth and the development process. In his population theory, Malthus posited that population growth progresses geometrically, outpacing the arithmetic growth of food production. This disparity, he argued, poses a long-term hindrance to sustainable growth, as an expanding population inevitably surpasses the available food supply [(54,55)]. Malthus believed that fluctuations in livelihood opportunities inversely impact population growth, with increased availability fostering population expansion. He acknowledged that technological advancements could augment society's resource supply, including food production, thereby enhancing living standards. However, as the minimum resources necessary for survival rise, population growth tends to outpace food production, leading to a detrimental imbalance. This imbalance adversely affects the living conditions of the most vulnerable, as wages stagnate at subsistence levels, prompting a population adjustment to align with food availability [(54)].

Malthus proposed various methods to maintain population-subsistence equilibrium and augment food supply, including rapid technological advancement, capital accumulation, and two distinct paths: the path of virtue and vice. The former entails practices such as chastity, celibacy, and abstinence, while the latter involves contraception [(54)]. While Malthus acknowledged the importance of saving and investment for economic growth, he cautioned against excessive saving, which could dampen consumption demand and impede economic progress. He advocated for balanced consumption, investment, and savings to foster sustainable growth in advanced economies [(56)]. Additionally, akin to Ricardo, Malthus highlighted the scarcity of fertile lands, positing rent as the primary form of surplus arising from nature's bounty. He refuted Ricardo's view of rent, asserting that it arises not from nature's generosity but from its limitations. Malthus warned that uncontrolled population growth exacerbates scarcity of agricultural products, increasing the exchange value of food above production costs. This excess value, termed rent, emerges as a deduction from the surplus derived from natural abundance. Furthermore, Malthus anticipated that as land availability diminishes, diminishing returns would prevail, causing profits and real wages to decline. Rent would initially manifest on fertile lands before extending to less fertile ones [(57,58)]. Malthus's theories shed light on the complex interplay between population growth, resource availability, and economic development, offering insights into strategies to maintain equilibrium and foster sustainable growth.

John Stuart Mill delved into various facets of societal progress, not limiting his discourse to mere economic expansion. In his seminal work 'Utilitarianism,' he expounded that the righteousness of an action is contingent upon its capacity to foster happiness, juxtaposed against its potential to engender the antithesis of joy. This foundational theory of utility underscores the centrality of individual actions and their repercussions on attaining ultimate contentment [(59,60)]. Moreover, Mill's 'Principles of Political Economy' delineates the economic continuum into distinct realms of production and distribution, each governed by disparate laws [(61–63)].

Mill contends that while the physical requisites for wealth generation, such as technological infrastructure and resource exploitation, are immutable, the mechanisms of wealth apportionment remain subject to human intervention and societal values [(63,64)]. Consequently, production is contingent upon the scarcity of resources and technological advancements, while wealth distribution is susceptible to socio-political constructs. Mill posits that material prosperity stemming from technological progress epitomizes human intellect and morality advancement [(65)]. Furthermore, Mill elucidates that societal norms and institutional frameworks dictate the allocation of wealth, thereby shaping socio-economic landscapes. The discretionary power vested in ruling entities enables them to influence wealth distribution in alignment with their

interests, potentially exacerbating disparities. Consequently, societal discontent burgeons, catalyzing calls for equitable governance predicated on principles of justice [(63,66)]. In advocating for international trade, Mill advocates for judicious policies that foster nascent industries without stifling competition. He suggests that protective measures, such as tariffs, can provide fledgling entrepreneurs with a buffer against foreign encroachment until they attain self-sufficiency. Mill posits that equitable wealth distribution, facilitated by ethical principles and bolstered by universal education and robust social institutions, can mitigate poverty and foster societal equity [(63,66,67)]. Mill's oeuvre espouses a vision of societal advancement predicated on the symbiosis of economic growth, ethical governance, and social justice underpinned by the twin pillars of utilitarian philosophy and progressive economic theory.

Classical economists have also utilized surplus to scrutinise economic growth mechanisms, albeit with distinctions from the neoclassical viewpoint [(68)]. They observed that how surplus is allocated could significantly impact economic development. When surplus is directed towards luxury goods, its potential contribution to economic growth diminishes. Conversely, when surplus is invested in productive endeavors, it fosters economic expansion and bolsters the overall economic process [(68)].

Classical economists, intriguingly, overlooked the inclusion of natural resources within their surplus economic theory, despite their acknowledgment of the scarcity concept, which they addressed through the computation of extraction costs [(69)]. They meticulously analyzed the implications of the use of natural resources, general profit rates, land rent and other factors affecting prices, and considered the relationship between price and production inputs, such as labour, capital, and land, to be a more decisive factor than the scarcity of natural resources. Their premise was that the pricing of goods hinges on production costs, advocating for using the taxation system to ensure effective redistribution [(44,70,71)]. For instance, Ricardo advocated taxing luxuries, rents, or rent-producing lands to redistribute surplus without impeding circulation. He cautioned against direct taxation on raw materials, necessities, and wages, emphasizing the potential adverse effects on prices and the impediment to surplus circulation [(44)].

4.2 Thoughts and theories of Keynesian and neoclassical economists

The era spanning from the 1900s to the 1970s witnessed the zenith of Keynesian and neoclassical economic thought. A fundamental divergence from classical economics lies in their respective conceptions of economic activity. Classical economics prioritises labour organisation to ensure survival and reproduction within the economy. Conversely, neoclassical economics prioritises efficiently allocating scarce resources among competing uses and users. This principle of allocation is based on market equilibrium and maximising profits. Key figures in developing and proliferating neoclassical economic theories include luminaries such as John Maynard Keynes, Alfred Marshall, Lionel Robbins, Robert Solow, Walt Rostow, and Arthur Lewis. Neoclassical economics has profoundly shaped contemporary understandings of market dynamics and resource allocation through their contributions.

John Maynard Keynes significantly differed from the classical economists by placing aggregate demand above aggregate supply in shaping income and employment dynamics. The paradigm is focused on demand, challenging the classical theorists, who focused on supply instead of demand. He argued that fluctuations in aggregate demand, driven by consumer spending, investment, and government expenditure, profoundly impact economic output and employment levels. Keynes also stressed the role of income distribution, suggesting that a fair distribution can boost economic output. His theories on weak demand

leading to output declines, income reduction, increased unemployment rates, and the benefits of a more even income distribution have had a transformative impact on economic thought [(72)].

Moreover, Keynes asserted that aggregate demand hinges on total expenditure on consumption goods and government and entrepreneurial investments [(72)]. He debunked that income equality necessarily leads to diminished savings, contending that it stimulates consumption without inherently causing financial strain [(73–75)]. According to Keynes, investment drives savings, not the other way around. He cautions against excessive saving that may result in hoarding rather than productive investment. He emphasizes that investment and saving decisions are influenced by profit prospects and individual preferences [(75)]. Additionally, factors such as the marginal efficiency of capital and interest rates critically determine investment levels [(72,73)].

Keynes advocated for a high level of public or semi-public investment as a potent tool to stimulate economic recovery. His innovative proposal of sustained public investment as a counter to fluctuations in private investment offered a new perspective. Contrary to conventional austerity measures, Keynes opposed cutting welfare spending and raising taxes to balance national budgets. Instead, he advocated for increased government spending to bolster consumer demand, revitalizing overall economic activity and alleviating unemployment. This approach, he argued, could lead to quasi-boom conditions, offering a novel and potentially effective solution to economic fluctuations [(72)].

Alfred Marshall, a pioneer of neoclassical economics, synthesized fundamental concepts such as demand, supply, marginal utility, and production costs into a cohesive framework [(14)]. Departing from classical economic perspectives, Marshall redirected economists' focus toward the intricacies of human action necessary for achieving material well-being [(14,15,76)]. Leveraging classical mechanics tools, including optimization concepts, Marshall illustrated how the economy evolves through a dynamic process involving technological advancements, market structures, and evolving consumer preferences and behaviours. He emphasized that economics concerns everyday life, wherein individuals earn and allocate wealth to fulfil basic needs such as food, clothing, and shelter.

Marshall's renowned theory of market equilibrium elucidates how demand and supply dynamics, particularly under conditions of perfect competition, determine the price and output levels of goods. He emphasized the nuanced interplay between demand and supply in determining prices and introduced the concept of exchange value of time [(86,87)]. In the short run when the factors of production remain fixed, scarcity prevails and subjective preferences and marginal utility influence prices. In the long run, the production capacity can be adjusted rendering goods quantities variable. Marshall introduced the key concepts of consumer and producer surplus and clarified the additional benefits that consumers and producers gain in transactions [(77,78)].

Moreover, Marshall delved into the classification of wants, differentiating between necessaries, comforts, and luxuries. He contended that market equilibrium ensues when demand aligns with supply, and any discrepancy results in disequilibrium, prompting adjustments in either demand or supply. Surpluses arise when supply exceeds demand, driving prices downward, whereas scarcity, stemming from excess demand, leads to price hikes. Marshall introduced the crucial concepts of consumer and producer surplus, elucidating the additional benefits gained by consumers and producers in transactions [(14)].

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Central to Marshall's analysis was diminishing marginal utility, wherein the value of each additional unit of a commodity diminishes for consumers. He posited that consumers continue purchasing until the marginal utility equals the price, yielding consumer surplus – the difference between total utility and actual expenditure. Similarly, producer surplus emerges from the disparity between the price received for a commodity and the marginal cost of production. These concepts, rooted in Marshall's marginal and geometric analyses, laid the foundation for understanding surplus in economic transactions, including its taxation implications [(14,79,80)]. Ceteris paribus, or 'other things being equal,' underpinned Marshall's analysis, isolating the effects of specific variables on economic outcomes. Thus, the concepts of consumer and producer surplus, intertwined with taxation, became integral components of neoclassical economic discourse [(14,79,80)].

In a significant departure from Marshall's classification, Lionel Robbins placed a profound emphasis on the subjective utility of individuals. Marshall classified human behaviour into economic and non-economic activities, with economic activities advancing material well-being. However, Robbins adopted a broader perspective, encompassing the entirety of human behaviour. He succinctly defined economics as the study of problems arising from the scarcity of resources and the necessity of making choices [(16)]. Robbins contended that economics delves into the scientific examination of human behaviour, particularly how individuals optimally allocate scarce resources within constraints. According to Robbins, human wants are boundless, perpetually evolving as one desire is fulfilled and another emerges in its place. Consequently, Robbins underscored the practicality of prioritizing choices in resource allocation. Despite the limitations of resources, he acknowledged their versatility, emphasizing the need to categorize needs and establish an order of importance in decision-making. He posited that economic problems arise when ends, means, and alternative uses fail to align, advocating for a prioritization-based approach as the ultimate solution. Robbins articulated that economics should primarily concern itself with the scarcity of resources and their interconnection with demand. When goods or products are scarce, their value escalates due to heightened marginal utility [(16)]. Robbins offered insights into the fundamental dynamics shaping economic decisions and resource allocation by centring on the nexus between scarcity, demand, and value. His conceptualization of economics as a science of choice-making under conditions of scarcity continues to influence contemporary economic thought, underscoring the imperative of rational decision-making amidst finite resources [(16)].

Robert Solow is known for his 'Neoclassical growth model' [(81)], an essential economic step forward. His model is an exogenous economic growth model, according to which economic growth results from three factors – labour, capital and technology. In the long run, a country's level of per capita income or economic growth can be explained by the country's technological development. Solow's theory holds that if different countries have similar capital accumulation or saving rates, population growth, technological progress and depreciation rates, regardless of their initial level of output per capita, all countries will achieve a similar level of balanced growth. Thus, their per capita income level will eventually become similar in the long run. Specifically, this model predicts that poorer nations are expected to grow faster and catch up with more prosperous or developed countries because their capital accumulates faster and grows from a lower base [(81–85)]. Today, this model is widely used by economists to estimate how technological change, capital, and labour separately affect economic growth.

In his 'Stages of Growth Model,' Walt Rostow advocates for a comprehensive understanding of a country's historical transformation process across social, political, economic, and technological dimensions to propel

economic growth and societal advancement [(85)]. Rostow delineates five essential stages that he deems indispensable for developing nations. Rostow initiates with the 'traditional society' stage, with agrarian-based subsistence living, limited trade, and minimal scientific knowledge. Transitioning to the 'preconditions for take-off' stage, Rostow observes enhancements in agricultural productivity, trade, capital influx, savings, and technological diffusion. This stage witnesses societal shifts in social mobility, national identity, and shared economic interests. The 'take-off' stage sees manufacturing growth, technological advancements, sectoral differentiation, and the nascent development of political institutions alongside increased savings. Subsequently, in the 'drive to maturity' stage, society leverages modern technology to resource savings and achieve balance in population, resources, and income distribution. As a result, per capita income uniformity and expansive growth across sectors can be seen in this phase. Finally, in the 'age of mass consumption,' economic output shifts towards consumption-driven activities, and the economy tilts towards the service sector [(86,87)]. This model has attracted criticism for its presumption of linear progression and its oversight of the internal dynamics and unique challenges developing countries face, including social and environmental disparities. Nonetheless, the model remains influential in shaping our understanding of developmental trajectories and guiding policy interventions to foster sustained economic growth and societal progress.

Arthur Lewis's 'Dual Sector Model,' introduced in 1954, offers insights into the imperative for countries to shift their economic structures from agrarian to industrial pursuits [(86)]. According this model, the economic structure is dualistic including the rural agricultural sector and the urban or industrial sector. Lewis emphasizes that the dynamic interplay between these two sectors is central in the process of economic development. In his framework, the rural sector grapples with significant challenges, including overpopulation and a surplus of unproductive labour. These factors lead to subsistence-level agricultural practices that need more economic surplus. Agricultural labour needs to be more utilized, with marginal productivity nearing zero, making additional labour input unprofitable. This situation leads to decreased overall productivity due to the exodus of workers from agriculture. In contrast, the urban or industrial sector offers higher productivity levels, fixed, relatively elevated wages, and ample employment opportunities. Labour migration to this sector catalyzes industrialization, as increased labour supply fuels production growth. Industrial enterprises' profits are reinvested, further propelling industrial expansion and fostering sustainable economic development [(86)]. While this model effectively outlines the labour transition dynamics in developing economies and addresses internal economic structure dynamics, it must address the sustainability challenges stemming from rural-to-urban migration.

4.3 Role of ethics in economic development and growth

In the late 1950s, a profound shift occurred in economic thought. Several economists became increasingly troubled by the lack of correlation between economic advancements in industrialized nations and the persistent underdevelopment in poorer countries. This concern culminated in the emergence of the dependency model, spearheaded by the Argentine economist and statesman Raúl Prebisch [(87)], which gained traction throughout the 1960s and '70s. Breaking away from conventional economic paradigms, the dependency model found its roots in Marxist examinations of economic inequalities. It introduced the concept of semi-colonial relationships from the late 19th century, attributing the underdevelopment of peripheral nations to the progress of central ones [(53)]. According to the neo-colonial dependency model, fostering economic development necessitates interdependent international trade relations [(88)]. The model

delineates two categories of nations: developed (or capitalist) countries at the centre and developing (or peripheral) countries. Developed nations bolster their economies by exporting goods to developing countries, entrenching dependency on their production and consumption patterns to address the issue of low purchasing power [(47,49,50)]. Furthermore, developed nations capitalize on cheaper labour from developing countries, maintaining lower wages to minimize capital investments and bolster profitability [(47,49,50)]. This asymmetrical trade dynamic consolidates power for developed nations, enabling them to manipulate local elites in developing countries to perpetuate dependency and power differentials [(88)]. Consequently, peripheral countries face constrained prospects for growth and development due to their disadvantaged position in global power dynamics.

In contrast, liberal theories, initially advocated by Voltaire, John Locke, Adam Smith, and Immanuel Kant, have a different approach to economic growth and development [(89)]. These theories advocate minimal government intervention in the economy and promote environments favouring participation in free and self-regulating markets [(90)]. Promoting free markets, economic freedom, privatization, free trade, export expansion, and foreign investment, proponents of liberal theories argue that decentralized mechanisms are essential for efficient economic functioning, given the challenges posed by the state agent problem and the prevalence of self-interested agents [(88,90–92)].

Economic growth reshapes economic structures and profoundly impacts social structures, including sectoral importance, labour dynamics, factor compensation, and public sector size [(93)]. The distribution of income among the population emerges as a critical factor influencing the societal impact of economic growth. The works of John Stuart Mill and John Maynard Keynes underscore the imperative of addressing income distribution through various social institutions, underscoring the ethical dimensions of economic policies. This notion of redistribution, intertwined with ethics and welfare considerations, plays a pivotal role in shaping a nation's economic trajectory [(94)]. Amartya Sen elucidates the dual origins of economics, highlighting the interplay between ethics and engineering concerns. While classical economists integrated ethics into economic analyses, neoclassical economists leaned towards an engineering approach, often sidelining ethical considerations from welfare analyses [(95,96)]. Hence, understanding the ethical underpinnings of economic policies remains crucial in fostering inclusive growth and societal well-being.

In 'The Nicomachean Ethics,' Aristotle provides profound insights into the intricate relationship between ethics and economics, suggesting that economics is inherently entwined with broader ethical and political considerations [(97,98)]. He views economics as a subset of the study of ethics and politics, rooted in the pursuit of human welfare. Aristotle challenges the notion that wealth alone defines well-being, instead framing it as a means to promote overall flourishing [(99)]. Central to his theory of virtue ethics is the concept that ethics, anchored in virtues such as justice, courage, and temperance, are essential components of a life well-lived, underpinned by a balance of rational, emotional, and social faculties [(97,99)]. Aristotle outlines a hierarchy of goods essential for a good life, emphasizing bodily goods, external possessions, and soul goods, encompassing knowledge, love, friendship, and self-esteem. He underscores the significance of ethical virtues in cultivating mutual trust, a cornerstone for trade and the smooth functioning of markets, as articulated by Adam Smith [(83,97,100)]. Smith elucidates how ethical considerations foster trust and enable the division of labour, enhancing productivity and contributing to sustainable economic growth [(101)].

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Jean-Baptiste Say further emphasizes the symbiotic relationship between morality and economic prosperity, asserting that successful entrepreneurship hinges on moral qualities such as judgment, perseverance, and worldly knowledge [(42,102,103)]. He contends that a nation's economic health depends on its moral fabric, highlighting the intrinsic link between ethical conduct and economic progress.

John Stuart Mill espouses a nuanced perspective on the common good, aligning with Aristotle's emphasis on individual welfare and distributive justice. Mill warns against unchecked economic growth, advocating for a stable-state economy to mitigate resource depletion and promote equitable income distribution through novel social institutions [(104)]. Additionally, Mill's utilitarian philosophy, founded on the principles of maximizing overall happiness and well-being, underscores the ethical imperative of actions that yield the greatest utility for the majority, irrespective of intentions [(59,60)]. In sum, the philosophical insights of Aristotle, Adam Smith, Jean-Baptiste Say, and John Stuart Mill underscore the profound interplay between ethics and economics, illuminating the ethical dimensions of economic conduct and policy formulation, which are pivotal for fostering sustainable economic development and societal well-being.

German philosopher Immanuel Kant staunchly opposed the utilitarian view of judging actions based solely on consequences, advocating for moral common sense as the paramount criterion instead [(105)]. Kant posits that morally valuable actions stem from a sense of duty and are untainted by personal desires or ulterior motives related to happiness. He advocates for the adherence to the "Categorical Imperative," which dictates that one should act only on maxims that can be universally willed as laws [(105)]. Kant's ethical framework emphasizes the importance of duty-driven actions that uphold moral principles irrespective of personal inclinations or perceived benefits, thereby preserving the purity of moral intent [(105,106)].

John Rawls, the influential political and ethical philosopher, challenges prevailing doctrines with his concept of 'justice as fairness' in his seminal work, 'A Theory of Justice.' Rawls argues that prior approaches neglect societal justice by prioritizing the happiness of the majority while neglecting minority rights and interests [(107)]. His theory advocates for a social and political framework grounded in equal fundamental rights and cooperation within a democratic economic system [(107,108)]. Rawls introduces the notion of the 'original position' veiled by ignorance, where individuals are unaware of their social status or personal attributes, ensuring impartiality and fairness in societal arrangements [(107,108)]. Central to Rawls's theory are two principles of justice: the principle of liberty, safeguarding fundamental liberties for all, and the principle of difference, ensuring equitable distribution and opportunities for the disadvantaged. By reconciling egalitarianism with laissez-faire principles, Rawls aims to establish a just society where individuals have equal access to fundamental rights and opportunities [(107–109)].

Amartya Sen's ethical theory centres on promoting equality of human capabilities, emphasizing the expansion of individuals' freedom and potential to make choices [(110,111)]. Sen's capability approach underscores the importance of assessing well-being beyond material wealth, considering political freedom, economic opportunities, access to public goods, and social security [(110,112–115)]. Sen argues for policies aimed at enhancing individuals' capabilities, empowering them to live fulfilling lives and engage actively in society [(111,116)].

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Simon Kuznets discovered a pattern where economic growth initially rises alongside income inequality. However, there comes a threshold where further increases in income inequality can impede growth. As per capita income climbs, income inequality tends to widen; nonetheless, with the progression of economic development, income inequality begins to shrink [(117,118)]. Kuznets's findings suggest that industrialization and the development of the welfare state play crucial roles in reducing inequality and promoting economic growth [(117)].

Wolfgang Stolper and Paul Samuelson's theorem on international trade highlights its impact on inequality between countries, particularly concerning factors of production such as capital and labour. They argue that trade liberalization can reduced inequality in developing countries but exacerbate inequality within developed nations [(119)]. This theorem sheds light on the complexities of globalization and marketization, emphasizing the need for policies that address domestic and international disparities.

5. Associated thoughts and theories of economics that insert social and environmental aspects within the sustainability framework

Brundtland's definition of sustainable development underscores humans' moral imperative toward other living beings and future generations. It emphasizes the ethical dimensions of wealth accumulation, redistribution, and inequality reduction as fundamental to achieving sustainability [(120)]. Indeed, sustainability devoid of ethics is often likened to an empty shell [(121)]. In economics, particularly, integrating normative frameworks such as social justice, human solidarity, concern for the impoverished, and respect for ecological boundaries is crucial for comprehending and realizing sustainable development. By scrutinizing and incorporating societal values into economic frameworks, the prospects for achieving sustainable development are greatly enhanced [(121–124)].

Following the Victorian era, economists such as Smith, Malthus, Ricardo, Say, Mill, and Marshall showed limited concern for resource depletion or environmental issues [(125–129)]. Their focus was mainly on conservation and managing mineral resources, relegating resource economics to the outskirts of economic philosophy [(125)]. However, post-World War II, resource and environmental economics gained momentum within the neoclassical framework due to concerns over resource demand and depletion [(125–130)]. Works such as the 'Paley Report' (1952) and 'Man's Role in Changing the Face of the Earth' (1955) drew attention to the rising material demand and environmental degradation, marking the inception of environmental economics' integration into mainstream economic discourse [(125,127)].

By the late 20th century, environmental economics became firmly entrenched in neoclassical principles, with concepts like market failure and externalities taking center stage [(131)]. Negative externalities like pollution led to interventions like taxes and subsidies to mitigate environmental harm. However, difficulties in quantifying environmental benefits and defining property rights added complexity to the allocation of environmental resources [(130,132,133)]. Contemporary environmental economists now focus on addressing market failures through mechanisms like public goods provision, market controls, and information dissemination. They advocate for pricing environmental goods and services to reflect their scarcity, preventing overuse and environmental degradation (125,130,134).

Environmental economics has been criticized for relying too heavily on neoclassical economic principles and not recognizing the intrinsic value of nature and the 'rights of nature' [(135,136)]. It has been argued

that environmental economics oversimplifies environmental issues by attributing them mainly to economic interactions, neglecting nature's role and the broader ecological context [(137,138)]. Moreover, it has been suggested that the emphasis on market-driven efficiency in neoclassical economics, adopted by environmental economists, needs expansion. Critics advocate for addressing issues related to equity and scaling to biophysical limits to achieve systematic societal development. They argue that this expansion should involve accounting for environmental and social costs in economic performance through the introduction of monetary and biophysical accounts, as well as other non-monetary valuation approaches [(128,136,139–141)].

In the mid-20th century, the concept of welfare economics, rooted in cost-benefit analysis, gained prominence as a systematic approach to policy regulation and resource allocation [(142)]. Studies by economists like Hicks, Kaldor, and Robbins laid the foundation for practical applications of welfare economics, particularly in infrastructure projects and policy evaluations [(143–146)]. The cost-benefit analysis became indispensable in justifying projects, with proponents emphasizing net societal gains and potential compensation for losers [(126,143–145)].

Extensive research into the boundaries of economic growth, energy dynamics, resource utilization, and associated social repercussions has paved the way for the emergence of ecological economics, tracing its roots back to 19th-century concerns surrounding overpopulation [(125,126,139,147,148)]. Despite early inklings, it wasn't until the late 1980s that ecological economics solidified as a distinct discipline, amidst the theoretical divergences within environmental and resource economics [(125,128,130)]. The formal establishment of the International Society for Ecological Economics (ISEE) in 1987 marked a significant milestone in this paradigm shift, serving as a nexus that integrates economics, ecology, and sustainability [(125,127,149)]. Ecological economics injects fresh perspectives into environmental policy and resource management, leveraging a spectrum of methodologies with a notable emphasis on pluralism. This approach allows for a comprehensive examination of broad ecological challenges such as macroeconomic dynamics, ecological footprints, long-term sustainability, and the intricate interplay between environmental factors and economic systems [(140,150,151)].

Despite sharing a common objective of understanding the nexus between human activities, the economy, and the environment to foster sustainable development, ecological economics fundamentally diverges from environmental economics. Ecological economics challenges several neoclassical assumptions, including those pertaining to consumer behavior, perfect information, the marginal productivity theory of distribution, and cost-benefit analysis [(128,140,141,150)]. Advocates of ecological economics contend that the traditional neoclassical economic framework portrays the economy as an insulated entity, neglecting critical elements such as the flow of energy that sustains vital biogeochemical cycles. They argue that while environmental economics predominantly focuses on optimizing resource allocation and efficiency, it overlooks considerations regarding the optimal physical scale of the economy and equitable distribution [(137,138,141,151–153)].

Moreover, ecological economists underscore the imperative for philosophical and ethical dimensions in economic discourse, emphasizing intra- and intergenerational equity, moral obligations toward non-human entities, communal values, and the socio-cultural context [(125,130,141,154)]. They challenge the notion that technological advancements alone can mitigate environmental degradation, asserting that material expansion has reached its physical limitations and that affluent nations disproportionately exploit natural

resources, exacerbating environmental burdens and inequalities [(130,155–157)]. Ultimately, ecological economists advocate for an economic system that prioritizes efficient allocation, equitable distribution, and sustainable scale, recognizing the interconnectedness of these principles with social, political, and ethical concerns. They stress the need for a communal approach to sharing values and responsibilities, shifting the focus from solely maintaining the Earth's capacity to support life to fostering a more equitable and sustainable society. This holistic perspective enriches economic analysis by integrating social, political, and ethical considerations previously relegated to policymakers or market mechanisms [(125,130,136,141,142,149,154,158,159)].

In addition, the debate between weak and strong sustainability represents a pivotal point of contention between the two paradigms. Environmental economics advocates for weak sustainability, while ecological economics upholds the concept of strong sustainability. Weak sustainability posits that maintaining or substituting one form of capital for another over time can achieve intergenerational equity and sustainable development. Rooted in neoclassical economic growth theory, it draws heavily from the works of economists like Robert Solow and John Hartwick [(160–165)]. This approach categorizes capital into financial, human, and natural capital, encompassing resources, the environment, and biodiversity crucial for ecosystem services. Under the umbrella of weak sustainability, the total stock of human-made and natural capital remains constant over time. The aim is to uphold total capital, even replacing depleted natural capital with financial and human capital. In this context, sustainability is defined as the non-decreasing total capital stock, disregarding limits to capital substitution and offering no special treatment to natural capital [(165–168)]. However, weak sustainability's reliance on capital substitution can have positive and negative ramifications. While it may lead to improvements in quality of life, such as through the utilization of coal for electricity production, it can also result in ecological devastation, as seen in the case of Nauru's phosphate mining. Despite initial economic gains, the long-term consequences, including environmental degradation and economic instability, highlight the limitations of weak sustainability [(169,170)].

In contrast to weak sustainability, strong sustainability, rooted in ecology and conservation biology, emphasizes the preservation of existing natural capital and the critical ecological services it provides. This approach rejects the notion of substitutability between natural and human-made capital, recognizing certain functions, termed 'critical natural capitals,' that are irreplaceable. For instance, the ozone layer's role in ecosystem services is vital and irreplaceable. Strong sustainability prioritizes ecological integrity over economic gains, advocating for nature's right to exist and emphasizing the need to pass down resources in their original state to future generations [(7,151,167,171,172)]. Furthermore, strong sustainability incorporates biophysical constraints into its valuation process, recognizing the interconnectedness of biophysical and socio-economic reproduction [(140,149,150)]. This contrasts with weak sustainability's subjective utility-based approach, which overlooks biophysical limitations and focuses solely on individual forms of capital [(7,173–175)].

In conclusion, the dichotomy between weak and strong sustainability reflects divergent approaches to addressing environmental challenges. While weak sustainability emphasizes capital substitution and subjective utility, strong sustainability prioritizes ecological integrity and recognizes the irreplaceable nature of certain natural capitals. The choice between these paradigms shapes economic theory, environmental policy, and resource management strategies, ultimately influencing people's collective ability to achieve sustainable development [(7)].

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6. Conclusion

This article thoroughly explores how the most relevant economic theories influence sustainable development, aiming to enrich theoretical discourse by clarifying their impact on conceptual frameworks. It serves as a foundational exploration of the intricate interplay between economic theories and sustainable development.

Across the tapestry of economic theory's historical evolution, towering figures like Smith and Say extolled the virtues of sustainable economic growth, envisioning it as a positive, perpetual cycle—a stark juxtaposition to the cautionary perspectives of Ricardo and Malthus, who delineated the boundaries of growth. Mill, in turn, emerged as a proponent not only of growth but also of equitable wealth distribution, underscoring the importance of societal fairness within the trajectory of progress. Despite luminaries like Amartya Sen championing a holistic, ethics-infused approach, the ethical underpinning gradually waned with the transition from classical to neoclassical paradigms. However, ethical considerations persist at the heart of the sustainability discourse, as economic principles and moral imperatives share an intrinsic interconnection.

In economic development theories, attention is drawn to international dependence theories and liberal theories. Each offers unique perspectives on sustainability, although none provides comprehensive solutions. Understanding these theories is crucial for navigating the complexities of economic development.
Regarding the intersection of economics and social spheres within sustainable development, a dichotomy emerges. Classical and neoclassical theories suggest a conflict between economic and social sustainability, while Keynesian economics offers a path to equilibrium through fair income distribution. Keynes' insights are significant for addressing income inequality's detrimental effects on marginalized populations.

In the social domain, Amartya Sen's capabilities approach reintroduces classical economic principles, reconceptualizing individuals as adaptive agents capable of maintaining a satisfactory standard of living in diverse social contexts. Sen emphasizes basic capabilities in defining social well-being, highlighting the importance of true freedom in pursuing opportunities aligned with individual aspirations.

In the environmental sphere, resource and environmental economics clash with ecological economics. While resource economics views natural resources as exchangeable assets, ecological economics stresses the finite nature of Earth's resources and advocates for a sustainable balance between economic and ecological systems. These perspectives give rise to differing conceptions of sustainability, ranging from weak to strong sustainability, each emphasizing the physical ramifications of resource utilization on economic, environmental, and social ecosystems.

In summary, sustainable development entails a multifaceted endeavor shaped by theoretical reflections and practical interventions. As global initiatives like the Agenda 2030 strategy propel us towards these objectives, understanding the symbiotic relationship between theory and practice is crucial for navigating the complexities of sustainable development in an evolving global landscape.

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