Capitalism doesn’t care. Care as an economics of shortage.

Abstract

This paper provides an analytical conceptualization of care labor through the lenses of Kornai's economy of shortage and Baumol's cost disease theory. We propose a syncretic vision where care is described as an economics of scarcity, characterized by consistently high demand and low supply. The reproductive tasks and many activities in the service sector cannot match the productivity of manufacturing or capital-intensive activities. Using Baumol's theory, we explain why increasing the supply of care labor increases costs rather than decreasing them, highlighting the labor-intensive nature of the service sector. We examine Baumol's three analytical solutions to the cost disease—internalization, externalization, and socialization—each with unique challenges. Unlike the productive economy, marketization is not a solution to an economy of scarcity in the care sector because it is structurally incompatible with the nature of care work. This synthesis allows us to analytically conceptualize the "crisis of care" proposed by Fraser and others.

In this paper, we sketch an analytical conceptualization of care labor based on Kornai's *economy of shortage* and Baumol's *cost-disease* theory. The postindustrial era put the service sector at the very center of the stage in the transformation of labor. Currently, the majority of new jobs are created in services (David & Dorn, 2013). Among those, care has a preeminent role, comprising childcare providers, teachers, nurses, eldercare, and related tasks such as food preparation, cleaning, personal services (from beauticians to therapists), counseling, and support. Despite this unprecedented growth in care employment, care is in crisis: social depletion (Rai et al., 2014), time poverty (Harvey & Mukhopadhyay, 2007), and family-work imbalances—caregivers are often overwhelmed and underpaid, if paid at all (Hess & Hegewisch, 2019).

Despite the rising salience of the service sector, the dynamics of services remain seriously neglected both by classical (and neoclassical) economics and by the political economy (Jansson, 2013), and the specificities of care work are often ignored (Boris & Parreñas, 2010). Despite some attempts to introduce care through the "human capital" paradigm (Folbre, 2012), mainstream economics has had difficulty accounting for interpersonal relationships, mainly for methodological reasons. Bodies, necessities, power relationships and personal responsibilities tend to be viewed as market rigidities and exceptions to the analytical frame based on the utility function (Picchio, 2015).

Historically, the service sector and care in particular have been seen as lesser endeavor. Smith famously remarked that "a man grows rich by employing a multitude of manufacturers: he grows poor by maintaining a multitude of menial servants". Services expire as soon as they are performed, leaving no saleable commodities behind. Therefore, service labor is unproductive and is considered only a cost supported by wages, especially by the rent of land and the profits of stock; in other words, services were mostly a privilege for the upper class.

For Marx, "Smith was essentially correct" regarding the distinction between productive and unproductive labor, but he rejects Smith's physicalist approach. For Marx, the same labor can be productive when bought by a capitalist, as a producer to create more value, and unproductive when bought by a consumer to consume its use value. In Marxian terms, productive labor is waged labor that leads to the production of surplus value (Tregenna, 2011). Baking a cake as an employee is productive because it produces surplus value, but the same activity at home would be deemed unproductive by Marx because it produces just use value. What makes the difference is the underlying relationship of production: "a school master is a productive worker when, in addition to belaboring the head of his pupils, he works himself into the ground to enrich the owner of the school. That the latter has laid out his capital in a teaching factory instead of in a sausage factory, makes no difference to the relation" (Marx, 1867). This conceptualization, while open to immaterial jobs, still sees labor that is a performance of services, "from whore to pope" (Marx, 1857), as unproductive. Services produce use value but not surplus value if performed outside of capitalist structures.

Feminist movements were the first to consistently explore the gaps left by previous theorizing and the contradictions within the care sector. Since the 1970s and 1980s, feminists have focused on "invisible, repetitive, exhausting, unproductive, uncreative" (Davis, 1981) mostly unpaid and informal care labor experiences within families, as the main gender template assumes that women,

especially mothers, are the main caregivers. The following scholarship used different readings of Marx to account for the exploitation of care labor within households (Arruzza, 2015). One strand theorized that capitalism was not enough to account for exploitation care, and another system, patriarchy, was needed (Delphy, 1998; Hartmann, 1979); other scholars attempted instead to find a 'unitary theory' of oppression, one that can theoretically integrate class and gender oppression without resorting to the ad hoc concept of patriarchy. This strand saw care labor as a way to subsidize capitalist reproduction under Fordism. In particular, it has been observed that because care labor was unpaid, it was invisible, and its oppression was naturalized, but in fact, care represents "the beginning of an assembly line that ends in the factories and other places of waged work"; in other words, it is not unproductive labor; it is reproductive labor that provides the "infrastructure necessary for the existence of the workforce" (Federici & Jones, 2020), drawing a parallel between care and Marx's concept of primitive accumulation (Caffentzis & Federici, 2014). Moreover, while the enclosures and the privatization of the commons permitted the accumulation of capital that started the capitalist dynamic, capitalism similarly exploits the 'unproductive' labor of caregivers to make productive labor possible. Early feminist scholars focused on visibility and the recognition of care to make the invisible visible: what is *naturalized* and concealed behind gender roles is in fact a primordial step of capitalist exploitation. This, along with many other intuitions, has since been systematized in the Social Reproduction Theory.

In this paper, we suggest another route to the unitary theory of exploring the connection between capitalism and care, which, to the best of our knowledge, has never been pursued, is to link care work to Kornai's "economics of shortage" and to Baumol's "cost disease". In particular, we do not read care only as a precondition of capitalist exploitation; rather, we conceptualize care as an intrinsically anti-capitalist practice. Starting from Kornai and Baumol, we present social care as an analytical concept and how it relates to welfare and how society configures the division of care labor responsibility and cost between the family, the market and the state. This goes along with the historical reading of the relationship between capitalism and care by Nancy Fraser, that illustrated how different capitalist configurations are linked with the broad organization of care. Our goal here is to integrate and expand both the historical reading of care regimes with the analytical reading rooted in Baumol and Kornai, furthering the development of a unitary theory. We don't see care just as "the background condition of possibility" of capitalism, or a subsystem of exploitation within four walls with the task of mending and curing the victims of exploitation, making the reproduction of capitalism possible. We argue that the relationship is dialectical, capitalism creates a crisis of care (Fraser, 2016), and care is the clog in the machine that could cause a crisis of capitalism.

We will proceed in several steps: Using Janos Kornai terminology (Kornai & Eggleston, 2001b; Kornai & Eggleston, 2001a; Kornai, 1997), we will point out how care is an "island of shortage economy", where the demand will always be more than the offer, and the dynamic of the system can be maintained only by a constant increase in labor productivity and innovation. With Baumol's theory about the cost disease, we will point out how care and the service sector tend to expand at the expense of more productive sectors. Mirroring Baumol at the macro level, Esping-Andersen noted that, analytically, there are just three ways for societies to deal with the tertiarization of society to counterbalance the cost of disease: putting the cost of services on consumers (a market

solution), pushing the cost of services outside the market (such as within families or in the third sector) or socializing the cost (redistribution).

If the productivity of the capital-intensive sector remains high, due to continuous technological innovation, the cost problem can be addressed in one of the three ways mentioned above (liberal, conservative, or social democratic). However, if the productivity of the capital-intensive sector was to decline – as is the case in many developed countries - the cost of care would be overwhelming for the system. As imagined by Marx, the end of the capitalist system may well occur because too much dead (capital-intensive) labor replaces living labor, creating a crisis of overproduction and underconsumption; however, we want to argue that the crisis of care, created through a regime of overconsumption and underproduction—an 'economy of scarcity'—can be equally fatal to the capitalist system, and this would open doors to noncapitalist forms of economic coordination.

Dynamics of productive and reproductive labor: manufacturing vs care in feminist economics

We have seen that for Marx, the distinction between productive and unproductive labor is based solely on the surplus generated when the capitalist makes a surplus profit by reselling the labor in the form of a commodity, and it is not about the effective use value of the production. If production, such as the domestic production of cakes or the artisanal production of tools, does not produce surplus, then these activities are considered unproductive in the eyes of the capitalist system (Tregenna, 2013). Baking a cake has a clear use value, but it is only productive if it produces a surplus.

However, in Marx's analysis, only manufacturing engenders a specific productivity dynamic characteristic of capitalism. This increase in productivity is only possible due to the combination of technological innovation and competition. This completely revolutionized not only production but also society. In particular, the socialization of production gave rise to the "collective worker", or the organized work of many coordinated individuals structured around machines. The competition among capitalists created a global market, and consequently, it led to the centralization and autonomization of capital. Marx famously said in the manifesto, "a society that has conjured up such gigantic means of production and of exchange is like the sorcerer who is no longer able to control the powers of the nether world whom he has called up by his spells". Capital becomes autonomous even from the capitalists that cannot control it, and the law of competition imposes the same grind on everyone: a relentless search for more innovation and increased productivity, in order not to be effaced by market forces.

On the one hand, competition increases the specialization of labor, and on the other hand, extreme socialization occurs, and everything is oriented toward the production of commodities for their exchange value more than their use value. Due to technology, the productivity of labor increases enormously, as does labor surplus. Kaldor noted a high correlation between living standards and the share of resources devoted to industrial activity. These productivity dynamics are based on a "learning-by-doing" component that increases the potential for productivity; only the practice can inspire and open up ideas and improvements. The development of industry in specific sectors, at

the same time, creates links with the rest of the economy (backward and forward linkages) that also find it necessary to innovate the production of products or their commerce and consumption (Hirschman, 1988); for example, the textile industry would develop both the mechanical industry needed for production (backward link) and a fashion system based on marketing and communication (forward link).

The service sector, by its own nature, does not and cannot engender the same productivity dynamics. As pointed out by feminist economics, the dynamics of care are deeply different for structural reasons (Donath, 2000). Care work is necessarily consumed while it is produced, and it can hardly be automated in a sociotechnical complex. Two points in particular make care work stand out.

1. Limited Supply. The available supply of services is inherently finite and cannot be expanded indefinitely. This is because “one person’s purchase of personal services is another person’s supply”. As we will discuss, this configuration leads to an economy marked by scarcity, where the demand for services perpetually and structurally exceeds the supply. This situation persists despite advancements in productivity within the manufacturing sector, which reallocates resources and labor to the service and care sectors—where the majority of new jobs in Western societies are now being created. Unlike in the goods market, where increased productivity typically reduces costs, improvements in the supply of care services do not lead to lower costs. This is because any increase in supply inherently requires more labor, a concept we will delve into further through Baumol's theories.

2. Difficult markets. The second main characteristic of care that feminist economists have pointed out is that while competition is the main driver of manufactured goods, competition, and therefore markets simply cannot fully develop in the care sector. Again, the logic of reproduction is profoundly different from the logic of production, not only because most care is given and received outside of a market, in households or in informal settings in the form of gifts and reciprocity. However, even in care services that have long been commodified, such as education and health, the nature of such "markets" is far from optimal. The beneficiaries of these services often cannot decide when, how, and where to participate, and "seldom have the flexibility to engage in ‘comparison shopping’" (Folbre, 2006). Often, public policies attempt to create markets where there were none before, using vouchers and other pseudomarket devices, or different insurance companies in the case of health care—but the reality is that there cannot be a market because there is little or no competition and therefore stagnant productivity and therefore high demand and low supply. In other words, the supply is limited because the lack of lucrative prospects due to limited productivity increases, which disincentivize actors of a market economy to join and provide such services.

3. Embodiment and emotional labor. Finally, unlike manufacturing, the service sector is less likely to improve through learning by doing, or the improvement is unlikely to travel from one worker to another since knowledge cannot be objectified in capital goods that would

improve production but is embedded in workers. Everyone must learn to be a parent on their own, and even formalized care work, such as nursing, relies on emotion and empathy in ways that cannot be serialized (Wharton, 2009; Hochschild, 2019). Although reproductive work makes productive work possible in its entirety, the care sector is less likely to develop linkages to other industries in the Hirshmanian sense. Sometimes new "machines" and new technologies, such as AI, can move many jobs previously in the service sector into the realm of labor-intensive jobs to capital-intensive jobs, as it is occurring with information-related activities. However, this dynamic or automatization is still extremely remote and unlikely to affect care work and reproductive work (Wright, 2019).

In the next sections, we will use Janos Kornai's "economy of shortages", outside of its original context of socialist economy planning, to explore why the care sector should be understood as an economy of shortage within an economy of abundant industrial production.

Janos Kornai's economy of shortage, care and reproduction

In his study of socialist economies, particularly those operating under central planning, Kornai famously observed the concept of the 'Economics of Shortage', a buyer market where demand perpetually exceeds supply (Kornai, 1980; Kornai, 1992). Kornai argued that these characteristics are systemic and not merely the result of poor policy implementation or external economic conditions. The shortage economy is fundamentally linked to the nature of socialist planning and the absence of market-driven signals and incentives. His work has been influential in understanding the dynamics and failures of centrally planned economies, leading to discussions and reforms in many countries.

Here, we emphasize that, due to the same systemic issues mentioned in the previous section, the economy of care should also be understood as an economy of shortage; it is an economic system where demand systematically exceeds supply. More precisely, we argue that if economies of shortage are (thus far) an aberration to the economy of production, they are a necessity in the economy of reproduction. For Kornai, one of the main mechanisms explaining the economies of shortage was the concept of 'soft budget constraints' (Nuti, 2018). In other words, socialist firms could not face any mechanisms of readjustment (such as bankruptcy) typical of a free economy, so this did not encourage cost-cutting measures and innovations, resulting in a lack of productivity.

1. First, with regard to care and the economics of reproduction, 'soft budget constraints' become closer to 'no budget constraints' – some authors such as Mary Daily also underline how care is taken for granted – because care activities cannot default despite being economically inefficient because they are simply vital. First, a lack of care would signify the end of reproduction, a condition sine qua non for human life. Thus, despite everything, care must be provided for the reproduction of the species. Care must occur at any price. With the concept of patriarchy, feminist scholars have understood that this transaction had to occur within a tightly controlled social order, presented as natural, that tasked women

with working for free, in the informal sector and within households. Many feminist economists have pointed out that this form of expropriation operated like enclosures for early capitalism, the primitive accumulation, an informal arrangement allowing for the existence of the formal economy. As a caveat, it is important to note that applying the same logics of capitalism to care would make care dysfunctional, or it would be the end of care—a topic we will explore in the last part of the paper. For the time being, it is only important to emphasize that to preserve the capitalist dynamic of production, care had to be forcefully produced outside of capitalist and market dynamics and deeply embedded in other, often oppressive, social rules.

2. Second, the lack of a productivity dynamic based on a lack of innovation and technological improvement characterizes the service sector as a whole, so the lack of productivity in care is not only due to a lack of incentives in the labor market or a lack of market-driven signals. The lack of a market for care should not be seen as the cause of the lack of competition but rather as an epiphenomenon of the impossibility of improving productivity. Social policy has often attempted to create a market for services, either through voucher privatization or by encouraging price competition, but these attempts will inevitably reach a limit because the number of frictions to competition is much greater in the care "market," almost to the point of configuring it as a natural monopoly. If a good can be stored or moved, hoarded or discounted, nothing of the sort is possible for services and care. Consumers of services should be understood as beneficiaries, with little or no choice in how the services are produced and delivered for them: no one chooses their parents, of course, but even in a health emergency there is no time for window shopping; care for the elderly is often limited by availability and geographical constraints; the same goes for child care, if one is lucky enough to find a place at all. While policymakers have tried (rather unsuccessfully) to make services a market, the deeper systemic issues about the inevitably low productivity of the sector do not allow for real competition, and a "market" for services does not generate the same competitive pressures as a market for goods; as a market, the care sector cannot keep up with manufacturing and cannot generate the same competitive dynamics (a point we will analyze in detail with Baumol in the next section). Thus, while the lack of market-driven signals is a feature of Kornai's scarcity economy, it should be seen as a consequence rather than a cause of the productivity dynamics of the care sector, and attempts to marketize the care sector have proven to be far from a panacea.

According to Kornai, one way to address the economics of shortages implemented by planners was to focus on the quantity of the supply, disregarding the quality of the production. Again, in the next sections, we can see how this strategy is also attempted in care labor. However, first, we need to clarify why this “economic shortage” island within capitalistic societies is expanding; it takes the name *“cost disease”*.

What is the cost disease?

In 1967, William Baumol published a book titled *Performing Arts: The Economic Dilemma*, in which he meticulously studied all the economic problems relating to theaters, opera, orchestral music and dance. In the book, Baumol proposed an interesting economic explanation for why the aforementioned activities are generally very expensive and, consequently, why they often need a significant amount of public funding and other subsidies to run (Baumol, 1967). Baumol noted that for a string quintet to perform Beethoven, we still need the same amount of work and number of personnel today as we needed in 1826 *alla prima*. Obviously, this specificity is intrinsic to the nature of the task, and there is no other way to boost productivity. Nevertheless, the rest of society has changed greatly since 1826, and thanks to industrialization and technological innovation, overall productivity has skyrocketed.

According to Baumol, wages in both the performing arts and industrial sectors tend to rise. However, increases in productivity occur only in the industrial sector, whereas productivity in the performing arts remains unavoidably stagnant. This explains why the average cost of the art sector tends to rise. Baumol gives us an example: the watchmakers of Geneva increased production from 12 clocks per hour in 1670 to 1,200 clocks per hour in 1975, but playing Dido and Aeneas (1688) by Henry Purcell (1659–1695) demands the same amount of work today as it did before. Therefore, given that the wages in both sectors have risen, playing Dido and Aeneas today will be very expensive.

To recap, we have a constant increase in wages in both the industrial and artistic sectors. However, only in the industrial sector do we experience an increase in productivity, while in the artistic sector, productivity remains stagnant and should be balanced by a growth in the share of people working in the service economy. This creates what Baumol called "*unbalanced growth and the cost disease of the performing arts."*

In the following years, Baumol applied the idea of cost disease to explain a number of phenomena, such as rising costs in many sectors other than the performing arts. In a 1967 paper, he tried to describe why large cities tend to run into deficit. He argued that given the large number of services that a city should provide, the consequences of the cost disease will be particularly difficult.

According to Baumol, cost disease is congenital to the technological structure of an economy. He divided the economy into two main sectors: technologically progressive and technologically stagnant. The former is the industrial sector, where thanks to technological innovations, a constant rise in productivity can be expected. The latter is the service sector, which is afflicted by cost disease. The distinction between the two sectors is grounded in the role of labor. With the same amount of work (input), the technologically progressive (capital-intensive) sector has a greater output of goods due to improvements in production technology. In contrast, in the service sector (labor intensive), the input of labor is equal to the output. As Baumol stated, "The basic source of differentiation resides in the role played by labor in the activity. In some cases, labor is primarily an instrument, an incidental requisite for the attainment of the final product, while in the other fields of endeavor, for all practical purposes, the labor is itself the end product." (Baumol, 1967)

The model used by Baumol is quite trivial, and his division of society into stagnant and productive sectors is somewhat arbitrary but nevertheless quite powerful. It is based on three assumptions:

$$(1)\ Y_{1t} = aL_{1t}$$

$$(2)\ Y_{2t} = bL_{2t}\, e^{rt},$$

where Y is the output at time t; L is the labor employed, which grows at a constant rate; and r is, in the case of (2), the technologically progressive sector. To simplify, this means that the output of the productive sector tends to rise even if the quantity of labor, L, is constant. This is because the progressive sector can increase output per person-hour due to technological innovation, etc.

$$(3)\ W_t = We^{rt}$$

If only the productivity of the progressive sector tends to rise, the wages of both tend to rise at the rate of the progressive sector, which has a clear influence on the final cost:

$$C_1 = W_t\, L_{1t}/Y_{1t} = We^{rt}\, L_{1t}/aL_{1t} = We^{rt}/a$$

$$C_2 = W_t\, L_{2t}/Y_{2t} = We^{rt}\, L_{2t}/bL_{2t}e^{rt} = W/b$$

Here, Baumol explains how the cost, C, of goods or services is obtained through the multiplication of wages, W, and labor, L, divided by output, Y. We can see that in the progressive sector, C_2, the cost tends to remain stable over time, while in the service sector, C_1, the cost tends to rise.

Baumol's model explains why, given the “sticky” productivity of the service sector, an increase in output will be possible only with an increase in the workforce allocated to the stagnant sector. For this reason, over time, “more and more of the total labor force must be transferred to the nonprogressive sector, and the amount of labor in the other sectors will tend to approach zero”. This is why the service sector is labor intensive and the progressive sector is capital intensive: the latter uses technological innovation to save work. As we have mentioned before, while the cost of goods declines with increasing supply, the cost of care increases given this labor dynamic.

In 1985, Baumol updated the paper to include a third category of labor, the ‘asymptotically stagnant’, which encompasses all the new types of work in the service sector that use strong technological innovation, such as informatics, broadcasting, data processing, and other high-tech industries (Baumol et al., 1985). In those activities, the progressive component is strong, but at the same time, they demand a constant quantity of human input, and in the long run, the cost of the human workforce will become increasingly significant. Baumol took an example from the technological sector, where the cost of hardware decreases significantly over time, whereas the cost of software and all related human services tends to increase. In 1993, he wrote another paper using the same idea and applied it to the cost of education and healthcare (Baumol, 1993). He showed how, after World War II, the price of those services rose and continued to rise.

Here lies the problem. If the service sector – which involves care, healthcare, education, insurance, administration, support of the indigent, etc. – is chronically afflicted by cost disease, how can the welfare of a nation be sustainable if the burden of those service costs continues to increase? As Baumol emphatically put it, "a[n] economic specter haunts the democratic governments of the world's most prosperous economies. The rising cost of healthcare and education cast a shadow over virtually every election, while increasing costs of other services play a part in the growth of the homeless population and the deteriorating sanitation of city streets" (Baumol & Bowen, 1993). Therefore, are we ineluctably victims of cost disease and unbalanced growth among sectors?

Baumol's theory is quite an exception in social science. Not only did he explain with simplicity and elegance the phenomenon that, as we saw, was first formulated in the 1960s (in relation to the field of the performing arts), but he also predicted – with a high degree of accuracy – the constant rise of service costs in the following decades until the present day (Baumol, 2012). We have vast amounts of empirical documentation that could validate the cost–disease theory. For example, Martins, de la Maisonneuve and Bjornerud studied the rising cost of long-term care expenditures in OECD countries and reported that demographic and technological factors both tend to influence rising costs (Martins et al., 2006). The trends in public expenditure on education and healthcare in the United States, France, Sweden and Italy are clear: everywhere, we see a constant increase in public expenditure devoted to those services. Goods become less expensive, and care becomes more expensive.

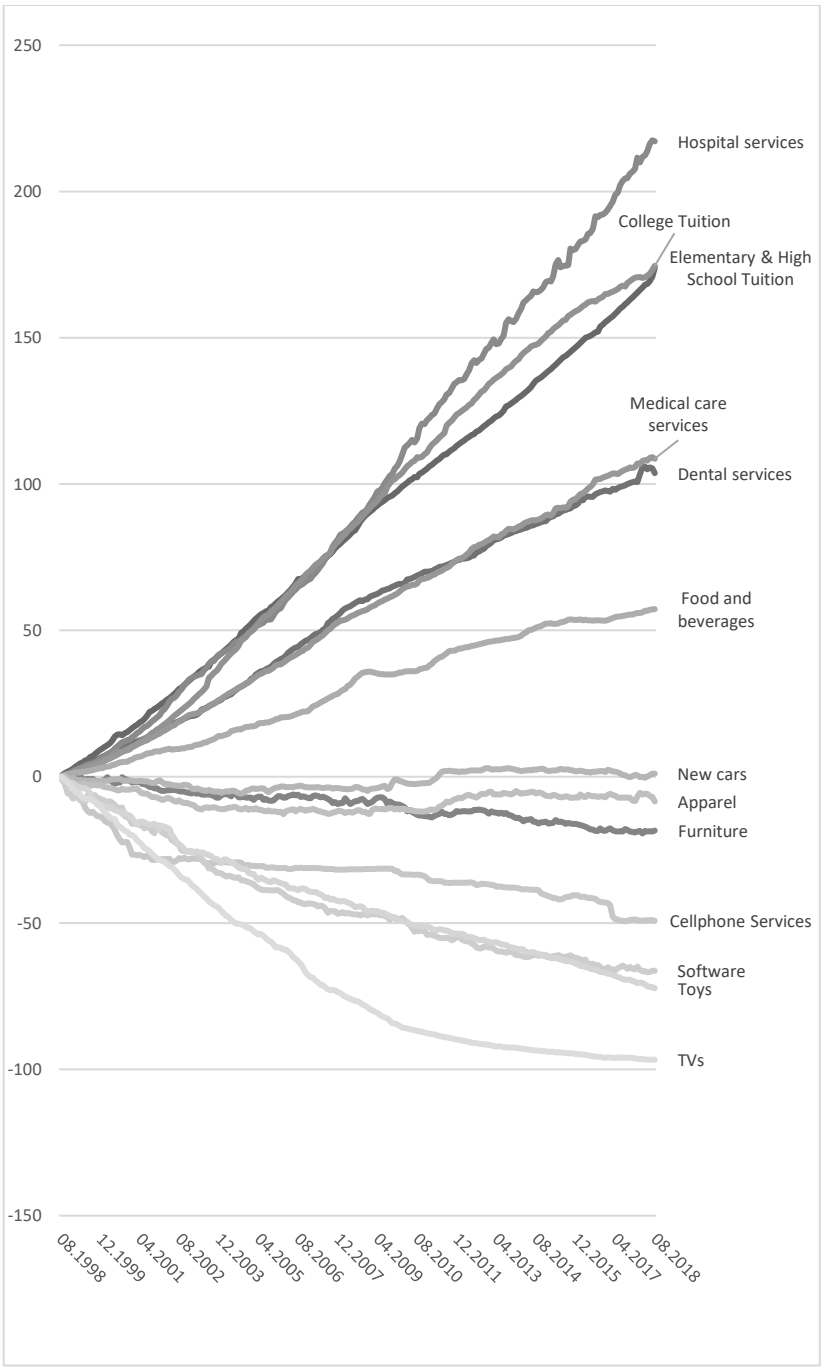

Figure 1. Graphical representation of Baumol's cost disease in the USA (1998–2018). Data from the US Bureau of Labor Statistics Data (Consumer Price Index – All Urban Consumers). The data was indexed on August 1998. Author calculations. https://www.bls.gov/cpi/data.htm

How do we address disease costs at the micro- and macro-levels? From Baumol's suggestions to Esping-Andersen's regimes.

Organizations such as restaurants, hairdressers and customer services, as well as theaters, schools, hospitals, waste management, etc., face the same problems. Those organizations where "the labor is itself the end product" face a constant and increasing relative cost and size of labor, and there is little or no way to improve productivity with technology. How can these organizations remain functional and profitable? They must decide where to shift the burden of increasing cost. According to Baumol (1967), there are three possible strategies.

1. Marketization: The first is to push the cost of the disease into prices. For example, that would mean that in the face of an increase in education costs, students would have to pay more, either by themselves or through funding by the family. In other words, this strategy shifts the burden of cost disease to the final consumer, increasing financial pressure. Another strategy, linked to this one, is instead to diminish the quality of the service provided, as planners did in economies of shortage (e.g., an increasing number of patients for the same number of nurses or increasing the number of students for the same number of teachers).

2. Internalization: The second strategy would be to go off the market. In this case, when facing a rise in the cost of professional firefighters, a community decides to provide those services on a voluntary basis. In other words, this strategy is to "depend on voluntary public support". A number of NGOs, NPOs and charities "have already long survived on this basis" (Baumol 1967). Another typical example is to internalize the cost of childcare, eldercare and other services within the family, where women are usually occupied full-time with those activities but without remuneration. However, the off-the-market strategy also has evident shortcomings: inexperience and/or unprofessionalism can lower the quality of the service provided. Providing services on a voluntary basis can be good if one is talking about amateur dramatics, but it becomes problematic for more critical services such as welfare for the poor and healthcare. In other words, charity, piety, benevolence, and other mutualism may help, but they are not systematic and based on social rights (Haubner, 2023). Following the same logic, self-care, often promoted as a personal solution to the shortcomings of formal health and welfare systems, reproduces the same logic of internalization. By shifting the responsibility for physical, emotional, and mental well-being onto the individual, it not only privatizes care but also obfuscates the need for public, professional support. Individuals are expected to optimize themselves rather than demand structural changes, perpetuating inequities and offloading the state's welfare responsibilities onto those least equipped to bear them (Ward, 2015).

3. Socialization: The third strategy is to socialize cost disease. In this case, society (as a whole) takes on the burden of the service, redistributes its cost through general taxation and uses professional workforces/services. This is the case where most of the services, such as education, healthcare and childcare, are public. This is possible because productivity as a whole is increasing, but its benefits are not evenly distributed. This usually raises the question of legitimacy. For example, why should the public subsidize a theater if only higher-income groups go to the theater? Another problem that could arise is overexploitation of common resources or problems linked with social justice themes

because those systems are particularly vulnerable to forms of "freeriderism", such as tax evasion.

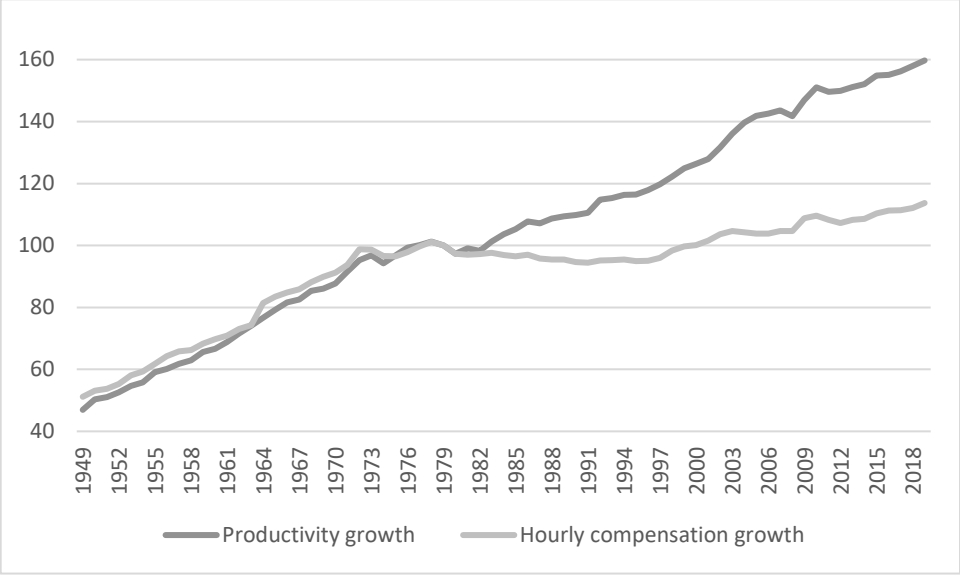

Figure 2. Productivity growth and hourly compensation growth, 1948–2022 (Economic Policy Institute calculations on EPI data). https://www.epi.org/productivity-pay-gap/

Countries and governments face the same problems as small organizations at the micro level. As Baumol mentions, public budgets are the first victims of cost disease and are "perhaps unavoidably subject to a variety of growing financial pressures" (1967). Welfare services that governments and cities provide are personal services that are particularly negatively affected by disease: services for the poor, education and healthcare tend to become increasingly expensive.

In the realm of social policy, Baumol logic has been transposed in the welfare regime theory by Esping-Andersen, where the three Baumol micro strategies find a macro dimension. In the Christian Democratic welfare of Western Europe, the solution was to provide incentives to keep women at home and out of the labor market in the form of maternalism (internalization) (Daly, 2022). In liberal welfare, as in the USA, the cost of welfare is paid by consumers, which explains the constant increase in spending of services that have to pay for the cost disease out of their pockets (see Figure 2). To limit cost, the price of labor, i.e., wages, is contained as much as possible, degrading care performance, and as a strategy to contain costs precarious populations are typically employed with lower wages, such as migrant populations that disproportionately work in the service sector (marketization). The third solution is to redistribute services through general taxation because an increase in productivity in capital-intensive sectors (such as manufacturing) will allow resources to be redistributed. The problem then becomes one of redistribution. This solution aims at what feminist scholars called defamiliarization (Lister, 1994), which consists of relieving families of care tasks thanks to high-quality public in-kind services—as is the case for the social-democratic welfare regimes of northern Europe.

All three solutions for addressing care provision come with significant challenges. The least expensive solution involves keeping people outside the capitalist space and formal work to provide care. This relies on the breadwinner supporting the caregivers, leading to dependency and exploitation, as well as concerns about care quality and a hierarchical social structure.

The second solution, raising prices for care services, depends on workers having sufficient income to afford them, which is increasingly unrealistic. This approach exposes the contradiction of using market mechanisms to regulate a system that cannot ensure fair prices. Additionally, labor is inherently limited, as noted by Kornai, because one service provided to one person is unavailable to another.

The third solution involves redistributing the gains from the productivity increases in the capital-intensive sector. However, political challenges hinder this approach, and wealth continues to concentrate at the top. Countries that have managed better redistribution have achieved high fertility rates and female employment, balancing personal and professional fulfillment.

All these solutions rely on Baumol's crucial assumption: productivity must continue to increase in the capital-intensive sector. However, it is important to note that productivity growth has been historically slowing down in advanced societies.

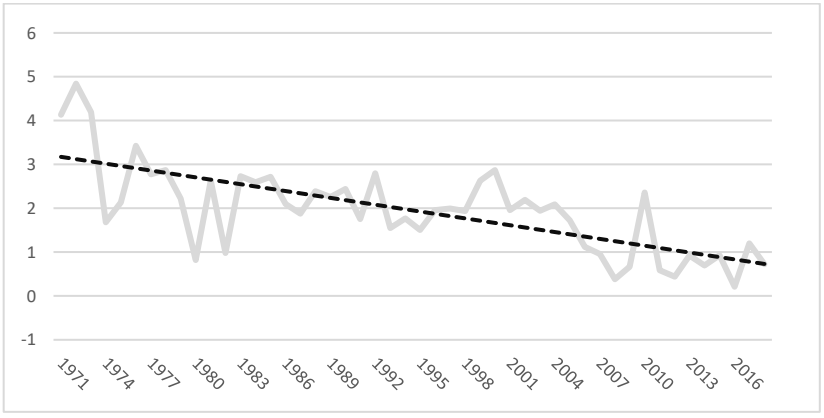

Figure 3. Labor productivity growth in G7 countries (1971–2016). Source: Author graph of OECD data. https://data.oecd.org/lprdty/gdp-per-hour-worked.htm

The growing concern over the limits of growth emphasizes the need to respect ecological boundaries, either through self-imposed limitations for environmental sustainability or due to the finite availability of resources. The lack of growth necessitates a radical rethinking of both capitalism and care. Moreover, an economy with slow or no growth would struggle to sustain the current system with any of the three possible solutions. The exception would be a return to socially regressive, heteronormative, and patriarchal systems where care is provided outside the labor market. This is more than a theoretical possibility; it has been observed in advanced economies experiencing deep and prolonged economic recessions, such as Russia and Central Asia, where

there has been a significant retraditionalization of gender relations. Feminist scholars, including Nancy Fraser, have highlighted the looming crisis of care.

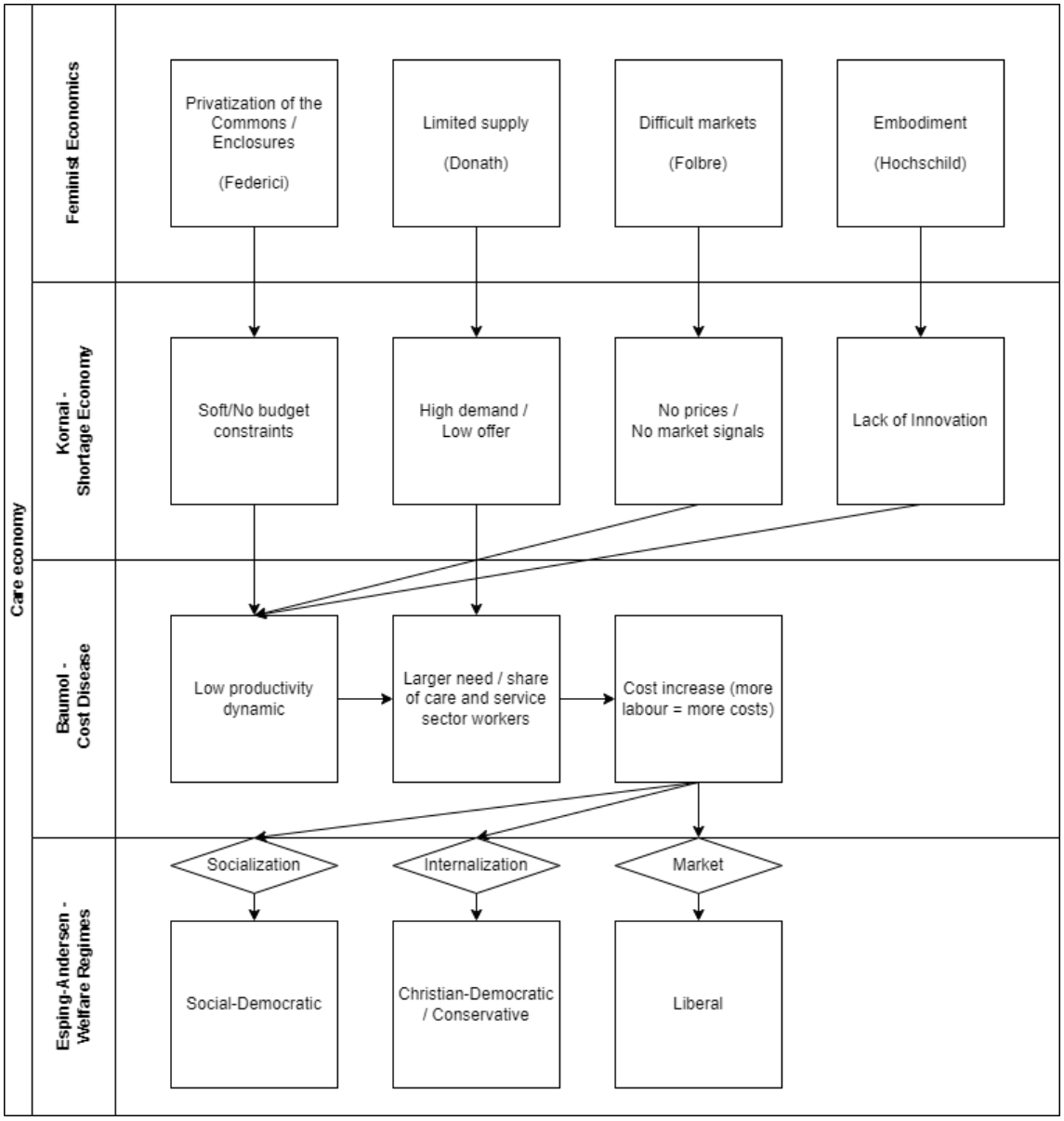

Figure 4. Schema of the argument. The feminist critique of the crisis of care is mirrored in Kornai's description of the economy of scarcity, with its impact on the dynamics of productivity. The low productivity causes the cost-disease to rise, especially in the care and service sector. The cost-disease can be managed in an aggregated way as suggested by Esping-Andersen.

Crisis of care and crisis of capitalism

Fraser has a vision conceptually similar to that of Baumol and Esping-Andersen, but she develops it as a historiography of care in different phases of capitalism (Fraser, 2016). For her, the three

solutions of integration, externalization and socialization follow a historical pattern, periodized as such:

1. 19th-century liberal competitive capitalism, internalization: In this era, social reproduction was seen largely as a private, familial duty, primarily resting on women. The ideology of "separate spheres" was promoted, designating men as economic roles and women as domestic roles. However, economic hardships often make it impractical for working-class families to truly separate these spheres.
2. 20th-century state-managed capitalism, partial socialization and internalization: This period saw the integration of social reproduction into state and corporate mechanisms through welfare provisions, advocating for a "family wage" that enabled men to be the sole breadwinners. However, this setup was not universally achievable, limiting its benefits to a minority.
3. Contemporary globalization of financialized capitalism and marketization: Currently, there has been a notable shift, with more women entering the workforce and manufacturing jobs relocating to regions with less expensive labor. Decreased investment in social welfare by states and corporations has led to the commodification of care, where those who can afford it buy services, while others rely on less reliable, privatized solutions.

Again, this reflects Baumol's distinction where the family (internalization), the state (externalization), and the market become the main providers of care. This theory links reproduction to the dynamics of production and reinforces the idea that reproduction and production are necessarily linked and that different arrangements of production require different arrangements of reproduction, but there cannot be production without reproduction. Fraser theory is Polanyian in nature because it links an increase in marketization with a more acute crisis of care. The commodification of care has led to a crisis of reproduction.

If Marx predicted the end of capitalism according to Marx's dead/living labor theory and the tendency of profit to fall, Fraser emphasized how the crisis of the system can come from care itself. Inadequate care can profoundly threaten capitalism because it threatens its reproduction. Indeed, contemporary societies face a crisis of reproduction in terms of the reconciliation of working life, the enormous cost of services, and the difficulty of social provision, which is manifested in very low fertility rates. Individuals and couples are discouraged from having children, and care for elderly people is becoming more of a problem. Moreover, as Baumol implied, the solutions cannot be sought in utopian technological fixes; without considering the nature of the care sector, the solution is necessarily political. In other words, solutions to the problems of care should be sought not only within the realm of reproduction but above all in the realm of production and how it is organized.

This paper outlines a way to unite micro- and macro-economics of care. The aim is to set an agenda, since there is a need for a feminist macroeconomics and a feminist industrial policy that transcends the distinction between production and reproduction and considers both and their interaction at the same time. If, in terms of production, we are witnessing a concentration of capital, both in terms of capital and geography, that has no precedent in history. Most of the production is taking place in

Asia, while Western societies are more and more afflicted by the cost disease. Recently, Western countries are already backsliding and implementing protectionist policies more than they did a few years ago; trade barriers and capital controls are already being pushed to give more time to a capitalist system that is running out of steam. This neo-nationalism, or the creation of trading blocs, is supposed to bring back to the West some of the progressive wage dynamics that created wealth after World War II. But this would only buy more time for a system that has already shown itself to be doomed by undervaluing and excluding care at its margins. New environmental and geopolitical pressures could not promise the constant increases in productivity needed to keep the machine running forever; and there will be no sustainability if we don't resolve the internal contradiction between production and care.

Conclusion

In this theoretically oriented paper, we propose to advance feminist economic theory by integrating it with Kornai's "economics of shortage", Baumol's cost disease theory, and Esping-Andersen's welfare regime theory to address Fraser's crisis of care. We propose a synthetic vision where the crisis of care is described as an economics of scarcity where market incentives and prices do not work, and it is characterized by consistently high demand and low supply. This occurs because the reproductive task and many activities in the service sector cannot increase their productivity as manufacturing or other capital-intensive activities.

While for Kornai, the solution to a scarcity economy was the reactivation of market signals and prices and the dynamics of innovation generated by firms facing "hard budget constraints", we pointed out that this solution is simply not possible in the care economy. The care economy is doomed to be an economy of scarcity, given the inherent impossibility of scaling, innovation, and labor. The care economy is a case of cost-related disease.

With Baumol, we explored why increasing the supply of care labor does not make it less expensive but rather more expensive. Most new jobs are created in the service sector. The productivity dynamics of the service sector are labor intensive and not capital intensive. Therefore, an increase in supply (in terms of care offered) does not decrease costs (as occurs in the capital-intensive sector), but it increases them. At the same time, despite being scarce and in need, care jobs tend to be highly exploitative because all the incentives are to keep wages as low as possible.

According to Baumol, there are only three analytical solutions to the cost disease: internalizing it, externalizing it, or socializing it. These solutions have different problems and challenges that have been explored in feminist literature. Internalization is perhaps the most important because it pushes—mainly women—outside the formal labor market into a situation of subalternity. Esping-Andersen uses the same categories to underline how different welfare regimes work, and he has integrated the idea of familization/demfamilization and marketization from feminist economists. In Fraser's contribution, these three styles are discussed from a historical perspective, showing how marketization entrains a Polanyian crisis of care.

This synthetic vision offers us a way to think about the crisis of capitalism both from the perspective of productivity and from the perspective of reproduction. Capitalism may fail, as Marx theorized, because of the tendency of the rate of profit to fall, the fierce competition that does not allow any more profits, and the crisis of overproduction and underconsumption. However, owing to our conceptualization based on Baumol, we see that capitalism, especially if the rate of profit continues to increase, could create a crisis of reproduction. We argue that this is more than a possibility, as it is already occurring in many contexts. This is not a crisis of overproduction and underconsumption but rather a crisis of a la Kornai of underproduction and overconsumption. The cost disease infects the rest of the economy and spreads.

We see countries today that have started to reshore jobs. This is part of other attempted strategies that Streek described as "buying time" (such as finalization) instead of dealing with political and distributional questions and the nature of production and reproduction. This theoretical attempt, in the spirit of Fraser, aims to suggest how we both need to analyze production to understand reproduction and vice versa. In addition, hopefully, it could open a research agenda that integrates feminist micro- and macroeconomics that sees the scarcity of care as intrinsically linked to the capitalist mode of production.

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