A Marxian Political Economy of Big Tech and AI: Profits vs. Rents

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Overview & Key Focus

- Our paper attempts a Marxian critique of the techno-feudal hypothesis and makes a case against reading the operations and systemic function of Big Tech as a departure from the core elements of contemporary capitalism. We engage with relevant heterodox scholarship to try to prove that value creation and extraction in the digital economy follows the dialectic of Marx's labor theory of value.
- Big Tech is a collective term for the largest and most influential technology companies in the world, which commonly denotes five dominant American firms—Microsoft, Apple, Alphabet, Amazon, and Meta. These are also the most germane to the techno-feudal hypothesis given their business model.
- We show that *surplus value* is produced by tech workers internationally—from warehouse workers, to delivery drivers, to coders, software engineers, technicians, gig economy workers, platform data workers, and manufacturing workers—not by consumers.

The Digital Hypothesis

Many contemporary analyses of Big Tech rely on the idea that profits in the tech sector come from value and surplus value produced “elsewhere” and that it is captured by firms that control “knowledge commodities” (Orhangazi 2025). This is described as “technofeudal” or “digital-age neofeudal” relations: a process of progressive dissolution of the capitalist mode of production and the replacement of market transactions with rent extraction (Durand 2024, Varoufakis 2023, Dean 2025); “surveillance” or “digital” capitalism: the claim over human experience as free raw material for translation into behavioral data (Zuboff 2019: 8); “rentier capitalism”: the contemporary system in which incomes and economic life are dominated by rents and rentiers (Christophers 2022: xvii-xviii), which marks a transition from a “regime of accumulation” to a “regime of appropriation” (Saito and Sasaki 2025: 10); or even “cognitive capitalism”: the replacement of fixed capital by “human capital” (Rotta and Teixeira 2018: 382).

Areas of Profit Extraction and Realization

The tech industry encompasses and enables most capitalist global logistics, industrial production, communications, and finance in its current configuration— it provides the means of computation, communication, logistics and transportation that are indispensable for the current stage of capitalist development. Its rise is inextricably linked to the *international* expansion of capitalist operations and the labor market during the neoliberal era.

Big Tech produces:

A. Software and hardware products for Department I

   Means of production (AI and specialized software, data storage and computing power including cloud computing, etc.)

B. Software and hardware products for Department II

   Means of consumption and surveillance (manufactured goods: phones, computers, software suites, etc.)

C. Software and hardware for the circulation of capital

   Means for the exchange of money and physical commodities—e-commerce, logistics products, retail, fintech, etc., merchant capital. (Aquanno and Maher 2024; Dyer-Witherford and Mularoni 2025)

Areas of Profit Extraction and Realization

The Bureau of Economic Analysis produced a report on the Digital Economy from 2017–2022, a sector that made up 10 percent of US GDP in 2022 or $2.6 trillion (slightly smaller than Manufacturing).

	Digital Economy Gross Output by Activity	2017	2020	2022
PRODUCTIVE	**Infrastructure**	31%	30%	31%
	Hardware			
	Software			
PRODUCTIVE	**Priced Digital Services**	45%	44%	42%
	Cloud Services			
	Telecommunications Services			
	Internet and Data Services			
	All Other Priced Digital Services			
UNPRODUCTIVE	**E-Commerce**	24%	26%	27%
	Business-to-Business E-Commerce			
	Business-to-Consumer E-Commerce			

Big Tech in Software and Cloud Services

Sector	Companies	Sale of Product	Sale of Labor Services**	Employment (Computer and Mathematical Occupations only)	Size of Industry
Software Publishers (NAICS 5132)	Microsoft, Salesforce, Workday, Oracle	81%	19%	240,110	$300 bn
Data Processing & Hosting & Related Services (NAICS 5182)	Google, Amazon, Seagate, Intuit, Facebook, Twitter	54%	**46%**	150,940	$384 bn
Computer Systems Design & Related Services (NAICS 5415)	Alphabet (Google), Cognizant, Accenture, Tata Consultancy	3%	**97%**	1,593,360	$700 bn

Fleming, Martin. (2025), Enterprise information and communications technology software pricing and developer productivity measurement. Review of Income and Wealth, 71: e12711. https://doi.org/10.1111/roiw.12711

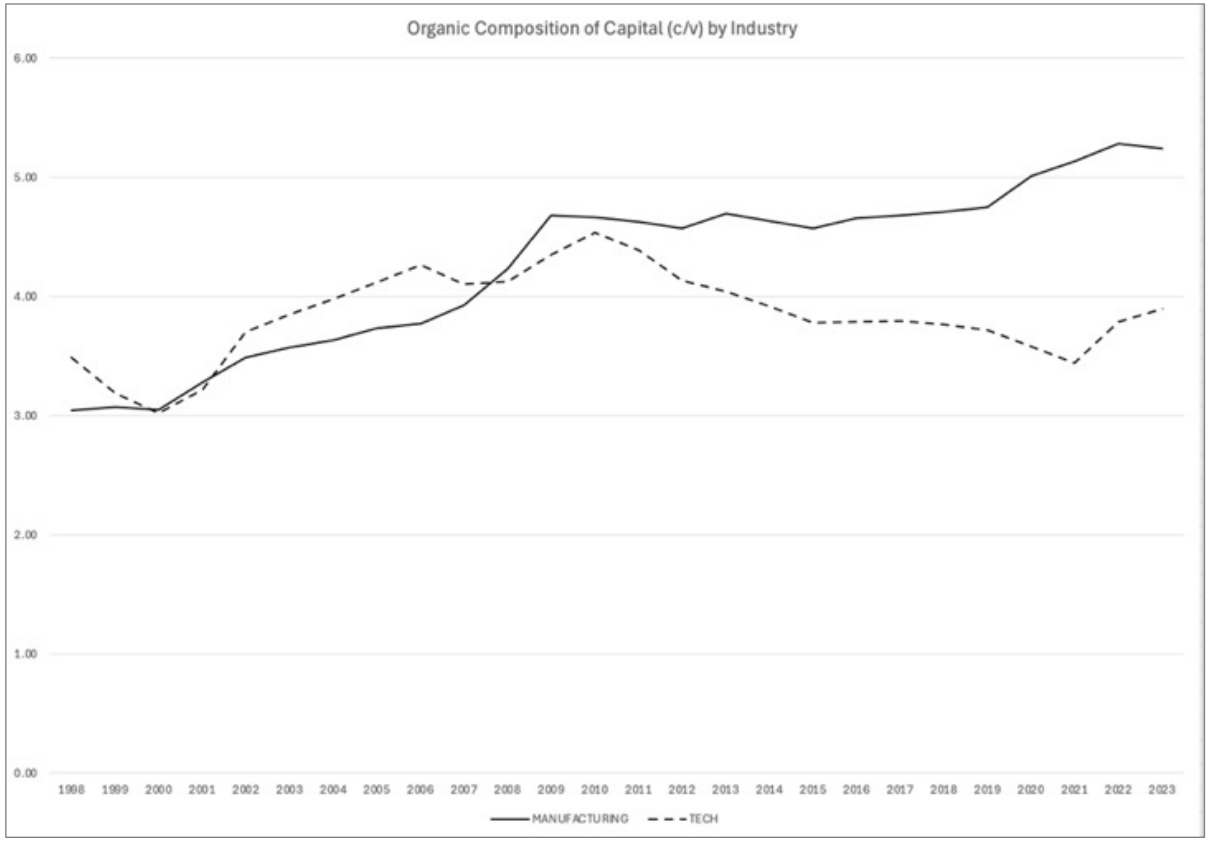
Tech Industry – Composition of Capital

Tech is unusual in the advanced industries because it is *highly reliant on labor*.

The tech industry (prior to AI capex) has had a lower OCC than other advanced industries like manufacturing, following the initial build-out of Internet infrastructure.

Tech is not an industry where a final product is purchased and no further labor is required. Rather, "the software sector includes the sale and/or rental of software and computing services as well as the provision of skilled labor. In general, the development, deployment, and use of software requires labor services. In business and government organizations, customization and integration of software applications and tools…are essential for successful software development."

Organic Composition of Capital, Manufacturing vs. Tech Industries



Source: Author's calculations from BEA data

Platforms: What Is the Commodity?

Marx argued in *Capital Vol. II* that the communications industry is an example of an economically important branch "of industry in which the product of the production process is not a new objective product, a commodity."

The communications industry consists of "both the transport industry proper, for moving commodities and people, and the transmission of mere information—letters, telegrams, etc."

"What the transport industry sells is the actual change of place itself."

"… this journeying, the spatial movement of the means of transport, is precisely the production process accomplished by the transport industry."

Marx classifies the communications industry as productive of surplus value. The product is consumed at the moment it is produced because the production process is the spatial movement itself.

Platforms: What Is the Commodity?

We argue that the transmission of information in its form as data is analogous to Marx's category of spatial movement, therefore it involves what Marx calls "productive labor."

Additionally, the communications process is facilitated by hardware and software, both of which are "a new objective product, a commodity."

From that it would follow that in transportation and communication as well as in the realm of digital means of communication "the exchange-value of this useful effect is still determined, like that of any other commodity, by the value of the elements of production used up in it (labour-power and means of production), plus the surplus-value created by the surplus labour of the workers occupied in the transport industry."

Profits vs. Rents

Varoufakis' hypothesis is that consumers expand Big Tech's "cloud capital"—i.e., they create new capital—by engaging with the algorithms that run on those platforms. He then identifies this unpaid labor with rent or rent extraction by tech companies (Varoufakis 2024). Similarly, Durand argues that the control over technology by Big Tech allows these companies "an unparalleled ability to appropriate value without any real engagement in production" since "the cost of reproducing information" is "near-zero." Therefore, "the digital age falls squarely within the realm of techno-feudal logic when the issue of rent is taken seriously" (Durand 2025).

Marx specified that the tributary nature of ground-rents resides in the exclusive property over "agricultural land, building land, mines, fisheries, forests, etc." (Marx 1991: 756). Rent, Marx says, is "money […] paid for 'a natural thing' (power or produce of the earth) upon which no previous human labour has been spent" (2020: 302). A natural thing that has no *inherent value* in principle.

Marx's Concept of Rent

The theory of ground-rent is important in explaining the source of revenue from the monopoly on land and any other "privately owned non-produced resource that is limited in quantity" (Basu 2018). Ground-rent "is the income stream that is appropriated by the owner of the non-produced resource per unit of time… for allowing use of the resource" (2018).

The "normal" forms of rent that Marx analyzes in agricultural production: differential rent (in its two types) and absolute rent involve the *transformation* of surplus value extracted from capitalist production into rent and its seizure by "landed property" (Marx 1991: 898). In all these cases, capitalist production "valorizes" landed property through the metabolic interaction of labor with the land, the fixed capital invested in it, and with some natural element that increases the productivity of labor (better fertility and location). This is why Marx says that "All ground-rent is surplus value, the product of surplus labour" (Marx 1991: 773).

Differential Rent (II)

For surplus value to be transformed into rent, the producer and the landowner need to be different people. In that sense GRT revolves around a "transformation problem." When the capitalist owns the land, the extra profits extracted from any fixed capital investments are, according to Marx, *surplus profits*, not rents (Basu 2018).

Marx distinguishes between *terre-matière* (land as matter) and *terre-capital* (land as capital). "The very fact of applying further outlays of capital to land already transformed into means of production increases land as capital without adding anything to land as matter, that is to the extent of the land… Land as capital is fixed capital…" (Marx 1991: 756). When the lease on the land expires, the improvements made by the capitalist fall to the landowner as his property who then sells the "improved land, the capital incorporated into the earth, which has cost him nothing." (1991: 757).

There Is No “Tech as Matter”

Within the Marxian framework, then, to apply the concept of rent to the revenue extracted from the use of technological infrastructure (which is in principle fixed capital and the produce of labor) owned by large firms is to say that tech capitalists are not involved in the production of capital, and, also, that the infrastructure they own has come to be, and is maintained, without the intervention of any human labor.

Tomás Rotta: “In the case of commodified knowledge and information the value of the commodity tends to zero, since the labor time required to reproduce commodified knowledge and information tends to zero once the first unit (the mold or template) is produced” (2024: 5).

The Theory of “Technological Rents”

Rotta and Teixeira credit Ernest Mandel for “his theory of ‘technological rents’ as the surplus profits derived from monopolized innovations that reduce production costs” (2018: 393).

Durand concurs. In his 2024 introduction to Mandel’s recently republished *Late Capitalism*, he says: “Strikingly, Mandel perfectly perceived the growing role of the intellectual monopolization processes at stake,” and “anticipates current research concerning the negative consequences of patenting, the impact of digitalization on competition dynamics and the special role of Big Tech” (2024: xv). He cites Mandel’s central argument on this theme, that “Technological rents are surplus-profits derived from a monopolization of technical progress…” (Mandel 2024: 192).

Mandel's Approach

"Firms operating at a higher productivity of labour – at the average of the branch, or *a fortiori* at an above-average level – receive a long-term surplus profit protected by the very monopoly, i.e., by the powerful obstacle which hinders the influx of additional capital into the branch in question….

These monopoly surplus profits are called differential rents. In *Capital* Volume 3, three such instances of differential rent are distinguished: land rent; mineral rent; and technological rents." (1991: 59)

FOOTNOTE: "I have used the formula 'technological rent' in extension of Marx's land rent, when conditions of 'artificial monopoly' are due to technological monopolies, similar to the monopoly in landownership."

Mandel's Approach

Mandel's concept of "technological rent" ***conflates*** Marx's concept of differential rent and any and all surplus profits extracted by monopolies.

"… the principal source of surplus-profits is now to be found in 'technological rents' or the productivity differential between firms and branches of industry. *The continuous and systematic hunt for technological innovations and the corresponding surplus-profits* becomes the standard hallmark of late capitalist enterprises and especially of the late capitalist large corporations." (Mandel 2024: 223–224)

Further Areas of Research and Analysis

- Productive labor is fundamental to the tech industry; the contribution by tech workers to the economy is key and prospects for organizing are central for the labor movement.
- The surplus profits obtained by Big Tech are based on a combination of high rates of surplus value in the software sector, a comparative lower organic composition of capital, and its symbiotic relationship with the state which has allowed *protracted* surplus profits, thus their false identification with rents.
- The examination of “simple labor” in the production of use-values through consumer interaction with digital platforms, contrasted with the “average social labor” carried out by tech workers in order to monetize the “behavioral surpluses” mined by tech firms in the realm of labor reproduction.