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# How the Digital Economy Has Exacerbated Inequality



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**In today's markets, firms and executives with even the tiniest competitive advantage grab all the spoils.**

Income inequality has increased in most developed countries over the past three decades. The phenomenon has been felt much more in some countries than others, but the general trend is unmistakable. In the United States, the income share of the top one percent has soared from an average of 27 times more than the bottom one percent in the 1980s to 81 times more in 2014. The top one percent income share (of GDP) is now almost twice that of the bottom 50 percent.

Technology has long been identified as one of the drivers of income inequality – together with globalisation and other organisational and institutional factors. While research on the inequality impacts of technology has largely emphasised the effects of skilled-biased technological change (with large wage disparities between skilled and unskilled workers), a [recent working paper](#) from the National Bureau of Economic Research (NBER) explores a broader source of inequalities by focusing on the functioning of markets. Digital innovations may have contributed to magnifying market

rents in more concentrated markets, which partly explains the increasing income share of top income groups (specifically top executives and shareholders) – compared to the majority of workers who have seen their wages stagnate since 1980, particularly the bottom 50 percent.

Such market dynamics may also help explain the driving forces of ballooning executive pay in the context of growing disparities in wages across professions and firms.

## **Markets in the digital age**

Innovation often goes hand in hand with market rents, as has been recognised since Schumpeter. Successful innovators enjoy temporary exclusivity over their innovations, based on first-mover advantage, intellectual property rights protection, brand reputation, network externalities and entry barriers. This exclusivity allows innovators to set prices well above costs.

What is different now and gives such rents a new dimension is the rise of knowledge and intangible assets as the key input of business and economic value in the digital age. The NBER article provides a neat framework to think about market dynamics with digital innovations. The rise in market rents is partly the result of increasing returns to scale that favour concentrated market structures. The more knowledge, data and software are deployed at scale across networks, the lower is their unitary cost. Thus, few companies expand rapidly.

Markets are increasingly akin to tournaments in which the best offer wins the race and captures most (if not all) of the market – sometimes globally. Such market concentration allows global frontier firms to extract rents. Meanwhile, barriers to entry are high for several reasons. First, economies of scale give incumbents a large advantage in terms of efficiency. Second, network effects (the more customers a product has, the more valuable it is to customers) make products less substitutable and lower the odds of customers switching to a competitor. Also, large players can encourage technical standards that increase entry cost and reduce customers' mobility. Third, incumbents' privileged access to data allows them to maintain the lead in innovation – or, otherwise, acquire successful start-ups. On the other hand, technology-intensive markets may actually prove more fragile and volatile because more players can disrupt the market, bringing 'creative destruction' that unseats dominant firms.

## The perils of market concentration

Earnings inequality is in part driven by **inequalities between firms** – which then translates into inequalities among people working for them. And, in the digital era, the usual technological gap between leaders and followers is accentuated, as exemplified by how R&D expenditure is concentrated in a few firms. People working for such **superstar firms** get paid much better at all levels. Yet, benefits go disproportionately to shareholders, investors and senior leaders of dominant firms (who are already in the top tier of the income distribution), further contributing to income inequality.

The existence of larger firms in concentrated markets leads to more pay for top executives. Indeed, an executive who is just marginally better than the next best one can create huge rewards for firms when winners take all (or high portions of) the market. In this context, big corporate players globally want to attract the top talent. **The urgency of reaching for the “stars”** generates contagion effects in which salaries increase across all top firms for **people with a slight edge**. Prized talents also disproportionately benefit from high-powered incentive schemes, such as stock options and bonuses.

However, not all pay raises are entirely linked to performance. My own research, which is cited in the aforementioned NBER paper, empirically identifies two additional mechanisms linking market concentration to executive pay:

- Compensation for higher risks: In addition to increased concentration, today’s markets feature more volatility as there are more players that can use technology to disrupt (and steal) the market. This means that the risk of failure (or threat of liquidation) in such juicy markets increases, i.e. if you arrive second, you get nothing. CEOs are compensated for taking on the extra risk and for protecting the firm’s market position.
- Managerial rent extraction, which could be the result of inadequate governance, with **managerial power** increasing in the few global corporations that concentrate the market.

Whether large compensation packages reflect optimal incentive design or rent extraction by entrenched CEOs remains the subject of debate. For informing policy actions, research must clarify which factor is dominating: luck or rent capture. Public attitudes over executive compensation also depend on that.

## Implications

Innovation and successful firms continue to be good for the economy. Tax and inclusive innovation policies can help [share the benefits of technology](#) widely in society. But a revised social contract is not only about fairness. Shared prosperity is key for the competitiveness of firms and nations, as egalitarian societies empower more people to acquire relevant skills, and productivity is higher in inclusive workplaces.

Beyond policy, combating inequality starts in our enterprises. They are the ultimate drivers of our prosperity, and organisational and work practices dating from the 1980s are partially behind rising inequality. Evolving systems of corporate governance have given more power to top executives and shareholders – to the detriment of the majority of workers.

Moreover, alternative employment arrangements such as contingent work, which are more unstable and precarious, have undermined large firms' role as an [equalising institution](#) within society. Leading firms used to compensate low- and middle-wage employees with a greater premium than their higher-wage counterparts, thus containing wage dispersion. Today, 'exclusive' talent management practices do the opposite.

If current trends continue, corporations may suffer in future when they can no longer find employees with the skills they need, or when employees – demoralised as a result of unequal pay – perform below their potential.

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