THE EFFECTS OF MARKET POWER ON INEQUALITY

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I. INTRODUCTION

Some policies drive economic growth, some act to redistribute income or wealth; however, it is rare to find policy instruments that do both. Investment in improving skills and education may fall into that category. New research from the OECD suggests that competition can also help governments to simultaneously achieve these two goals.[2] While competition has long been known to drive economic growth, there is evidence that competition can also make an important contribution to reducing income and wealth inequality. Given the recent concerns about increased inequality across many countries, this relationship bears further exploration.

The reason market power and inequality are related is simple. In the absence of competition, market power drives prices above costs; these higher prices increase everyone's consumption expenditure and redistribute the extra money spent towards business owners and financial asset holders, who are overwhelmingly concentrated at the top of the income distribution. The dual effect is to increase the income of the upper decile while reducing consumption power and savings for the rest of the population. In the long-run, the accumulated money transfers from consumers to businesses is likely to help the richest accumulating wealth and raising their income, while making it more difficult for the poorest to build their savings or to reduce their dependence on credit.[3]

While estimating effects on long-term distributions of wealth and income requires extensive data and complex modelling, in this paper we attempt to calculate a rough measure of the short-run money transfer from poor to rich due to market power, for 12 OECD economies: Australia, Canada, France, Germany, Greece, Japan, Korea, Mexico, Portugal, Spain, United Kingdom and the United States. Our results indicate that, on average, for each dollar of monopoly profits, a total of USD 0.37 is transferred from the 90 percent poorest to the 10 percent richest.

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2 See preliminary results in Ennis, Gonzaga & Pike (2017), "Inequality: A Hidden Cost of Market Power," available at: https://ssrn.com/abstract=2942791.

3 If the extra profits from firm market power are distributed to their employees, rather than shareholders, the effects of market power are ambiguous and depend on how rents are distributed among employees.

The relation between market power and inequality has been analyzed more in-depth in some recent OECD studies. Ennis et al (2017) propose a steady-state model that attempts to estimate how measures of market power affect the long-run distribution of income and wealth, by modelling the impact of higher prices on real income and saving behaviors. The preliminary results suggest that, in an average country of the sample, market power would increase by 17 percent the wealth of the best-off 10 percent.

Broadly similar results are also found in Ennis and Kim (2017),[4] suggesting that 10 percent to 24 percent of the wealth of the best-off decile may be attributed to market power, for another sample of OECD countries. The model they use follows the approach of Comanor & Smiley (1975),[5] but with the advantage of considering a wider range of assumptions, covering more countries and using more recent data.

While the analysis of this paper does not actually estimate impacts of market power on income or wealth as the two previous more comprehensive studies, the analysis conducted here still allows us to have a notion of the dimension of the redistribution effect of market power using a simple and intuitive methodology, with few data requirements.

II. MEASURING THE REDISTRIBUTIVE EFFECT OF MARKET POWER IN 12 OECD COUNTRIES

The magnitude of the redistribution effect of market power can be roughly estimated at the aggregate level for a whole economy, by identifying the households that earn the monopoly rents and, at the same time, the ones that are charged with higher prices. In other words, by taking into account how business ownership and consumption are distributed among a population, it is possible to determine who benefits and who loses from market power, and by how much.

In order to understand the reasoning behind such estimation, suppose that half of the economy is responsible for all the aggregate consumption, while the other half owns all the monopolies in the economy. In such a simple example, market power would result in a redistribution of 100 percent of the monopoly profits from the first half to the second half of the population. In contrast, in a hypothetical economy where consumption and business ownership are equally distributed among the whole population, the redistribution effect of market power would be close to zero, as all agents would benefit from higher profits and would be charged higher prices by the same amount. Thus, in an economy where businesses and consumption are evenly distributed, market power decreases efficiency but does not affect equality, as all the monopolies end up cancelling each other out.

In reality, market power will benefit agents proportionally to the share of monopolies they own and harm them in proportion to their level of consumption. While data for the distribution of consumption is widely available, it is harder to know exactly who owns the businesses that generate monopoly rents. Still, the distribution of business ownership is likely to be well approximated by the distribution of wealth, which reflects the share of capital each individual owns and, arguably, the share of monopoly profits.

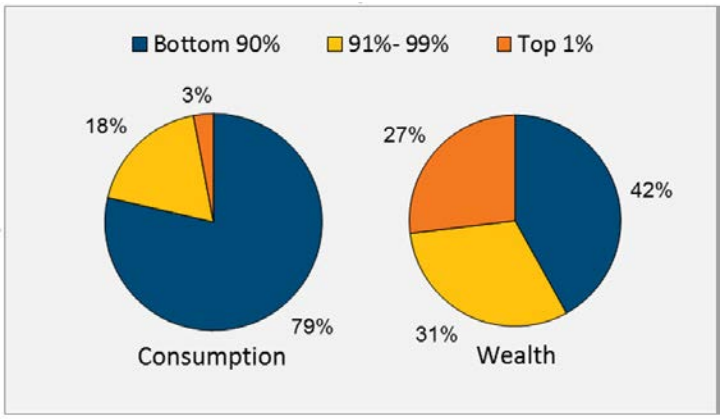
With this reasoning in mind, we collected aggregate data of consumption and wealth by quintile breakdown and for the top 1 percent, 5 percent and 10 percent richest of the population, for a sample of 12 OECD countries: Australia, Canada, France, Germany, Greece, Japan, Korea, Mexico, Portugal, Spain, United Kingdom and the United States. The wealth distribution data was retrieved for the year of 2014 from the Global Wealth Databook of Credit Suisse. The consumption distribution data ranges from 2010 to 2014 and was collected from multiple sources, such as Eurostat for the European countries and, in the remaining cases, from income and expenditure surveys conducted by the respective national statistic offices.

4 Ennis & Kim (2017), "Market Power and Wealth Distribution" in OECD/World Bank *A Step Ahead: Competition Policy for Shared Prosperity and Inclusive Growth*, Washington, DC: World Bank Publishing. https://openknowledge.worldbank.org/bitstream/handle/10986/27527/9781464809453.pdf?sequence=2&isAllowed=y.

5 Comanor & Smiley (1975), "Monopoly and the Distribution of Wealth", *The Quarterly Journal of Economics*, Vol. 89, No. 2, pp. 177-194, http://www.jstor.org/stable/1884423?seq=1#page_scan_tab_contents.

Before even making any preliminary calculations, the mere analysis of the data allowed us to observe a large difference between the distribution of consumption and the distribution of wealth in every single country of the sample. As summarized in Figure 1, in average the top 1 percent richest of the population consumes "only" around 3 percent of the aggregate output, while the same top 1 percent holds more than one quarter of the total wealth. The difference is also considerable for the top 10 percent, which has a share of 20 percent of the aggregate consumption but nearly a 60 percent share of the total wealth.

Figure 1. Distribution of wealth is substantially more unequal than distribution of consumption.*

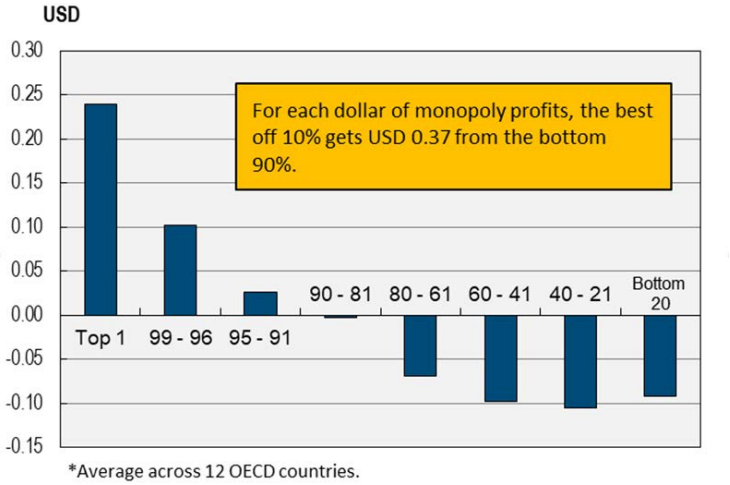


*Average across 12 OECD countries.

The observed data suggests *a priori* that market power has, at least, some non-negligible redistributive effect. Indeed, while consumption is reasonably evenly distributed, the wealth is overwhelmingly concentrated at the top decile of the population, indicating that the richest individuals are able to capture a non-proportional share of the monopoly rents without being negatively affected by the higher prices. In order to get a better idea of the overall magnitude of the redistributive effect, the data collected can be used further to obtain an approximation of how much each group of the population wins or loses with market power, by measuring the difference between their respective wealth and consumption shares.

The results in Figure 2 reveal that, on average, out of each dollar of monopoly profits, there is a transfer of USD 0.37 from the 90 percent poorest to the 10 percent richest. Although only average results are displayed in Figure 2, the distribution of harm is systematically the same across the 12 economies: the bottom 80 percent of the population are typically the ones that become worse-off with market power and the effect is higher for "middle-class" individuals (in the 21 to 60 percentiles) that have a reasonable share of consumption but a small portion of wealth. On the other hand, market power benefits essentially the top 5 percent richest and, in particular, the top 1 percent, in all the countries studied.

Figure 2. For each dollar of monopoly profits, how much do households earn?*



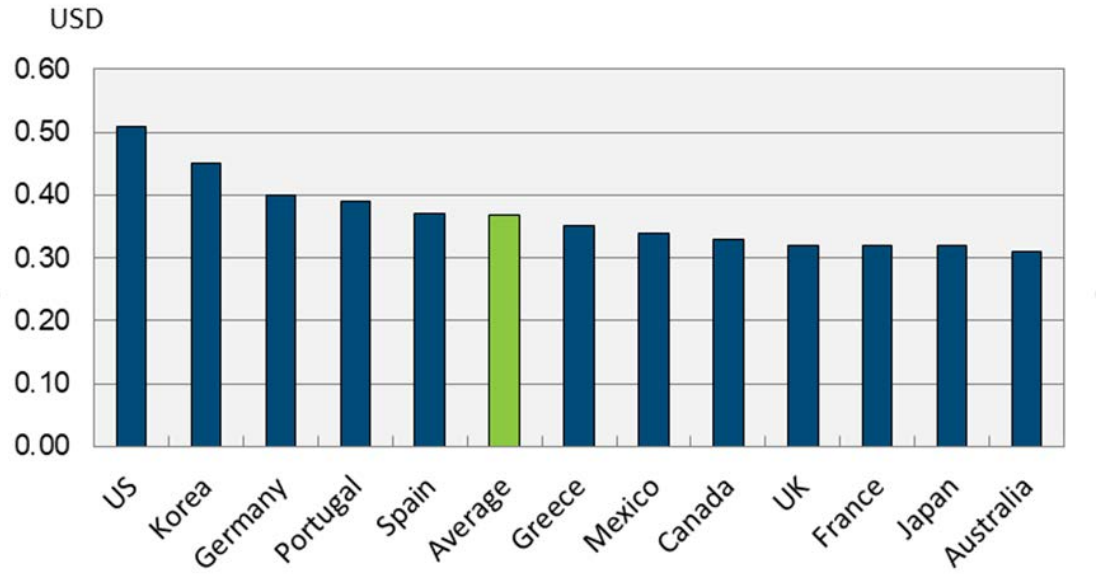
*Average across 12 OECD countries.

Despite the similarity of results across countries in terms of who benefits and who is harmed, the magnitude of the total effect can still differ somehow. In Figure 3, we show that, for each dollar of monopoly profits, the amount that is actually redistributed from the bottom 90 percent to the top 10 percent can range between USD 0.32 and USD 0.51. This is because in some countries wealth is more concentrated in the high-income groups than in others, which fragments further the individuals who earn higher monopoly rents from the ones that suffer with higher prices.

Still, it should be noted that Figure 3 does not take into account that the level of market power differs across the different countries. That is, in countries where public policies overly restrict competition, monopoly profits will be likely much higher, implying that the total amount that is transferred from the poor to the best-off is also more substantial. At the end of the day, it is not only important to determine the share of monopoly profits that is transferred from the bottom 90 percent to the top 10 percent, but also to measure the overall dimension of monopoly profits in the economy. Such additional data would provide a better insight of the whole dimension of the problem.

Although we do not have such data available, we can still provide an illustration of how much an average individual would be affected by an arbitrary level of market power. For instance, if mark-ups from market power range between 10 percent and 20 percent, in average an individual in the bottom 90 percent is expected to lose from USD 1,600 to USD 3,200 per year, while an individual in the top 10 percent earns 9 times that value (from USD 14,400 to USD 28,800).[6] Note that this is just an illustration to provide a better intuition of our results, while determining these figures with precision would require additional data about the actual dimension of monopoly profits.

Figure 3. For each dollar of monopoly profits, how much money is redistributed from the bottom 90 percent to the top 10 percent?



6 For these calculations, we collected data for the GDP per capita in USD PPP from OECD national accounts.

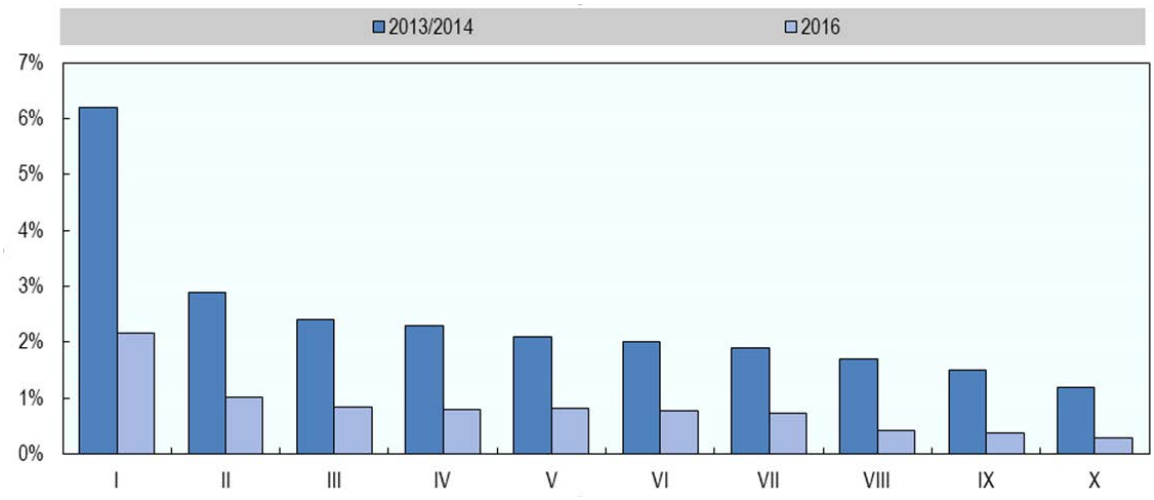
II. A CASE STUDY OF MOBILE PHONE SERVICES IN MEXICO

The nature of the effect that reducing market power (or decreasing prices) for products that account for high spending by the poor has on inequality can also be seen in a recent example in Mexico where retail prices of mobile phone service packages fell by 61 percent to 76 percent between 2013 and 2016.[7]

Figure 4 shows that, in 2014, spending on mobile telephone services constituted about 6.2 percent of income for the poorest 10 percent in Mexico, and 1.2 percent of the income of the richest 10 percent. The impact of price reductions was in many respects more perceptible for the poorest decile than the best-off decile (without considering who would get more profits as a result of those high prices). The poorest households would have seen their spending fall from 6.2 percent of income to 2.2 percent on average (a decline of 4 percentage points), while the best-off households would have seen their spending fall from 1.2 percent to 0.3 percent of income (a decline of 0.9 percentage points). These calculations assume that the poorest households subscribed to limited usage plans while the better-off households subscribe to high usage plans, but the results do not change substantially depending on the assumptions used, as the price reductions for all types of plans are all in a band between 61 percent and 76 percent.

In short, the share of income devoted to mobile telephony for the poorest households witnessed a percentage reduction that was four times the size of that for the best-off households. While this ratio is not necessarily representative of all product categories, this type of effect is illustrative of what can happen to income shares for price reductions of goods that constitute an important part of the basket of goods and services that the poorest regularly purchase. Internationally, other goods that may exhibit similar properties could include food, housing, energy, water, healthcare, broadband and television services.

Figure 4. Percentage of household monthly expenditure in mobile telephony services as a proportion of income, sorted by income group



Note: I-X represent income groups, where Group I is the poorest 10% households in Mexico, and Group X the richest 10% of households in Mexico. For deciles I-IV, low usage plan price reductions are applied, for V-VII mid-usage plan price reductions are applied and for VIII-X, high usage plan reductions are applied.

Sources: OECD elaboration using data from INEGI (2015), *Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH) 2014* [National Survey on Household Income and Expenditures 2014], www.beta.inegi.org.mx/proyectos/enchogares/regulares/enigh/tradicional/2014/default.html; and IFT (2016j), "Anuario estadístico 2015" [Statistical yearbook 2015], www.ift.org.mx/estadisticas/anuario-estadistico-2015, OECD (2017) OECD (2017), *OECD Telecommunication and Broadcasting Review of Mexico 2017*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264278011-en

7 This example is based on information from OECD (2017) *OECD Telecommunications and Broadcasting Review of Mexico*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264278011-en.

IV. TACKLING ILLEGITIMATE SOURCES OF MARKET POWER

We are by no means suggesting that wealth acquired from market power is in any general sense improper. Much of the profit from market power, and quite possibly the majority, is derived from legitimate sources, such as patents, trademarks and brand differentiation. The value of market power in these areas is that it creates a stream of profits that provide an incentive for investment in new and innovative products and services. Absent market power, many investments would not yield a positive financial return and so would not be made. In particular, some of the profits from market power may be counter-balanced, in investment terms, by losses that were made in R&D for innovations that were ultimately not successful. Thus returns to market power may be lower than the measured level, due to the need to take into account unmeasured losses from alternative, failed investments.

Moreover, given that the net present value of profits is what is necessary to motivate investment, not only the level of mark-ups is important but also the length of the period of market power. If innovation cycles have grown shorter, then higher mark-ups would be needed to provide the same net present value of profits from one innovation, other things being equal.

While much market power, or monopoly power, therefore has its source in legitimate and desirable economic ends, there is also some market power that has more problematic origins: for example, market power that arises from anticompetitive behavior by companies, excessive concentration, protectionism or by government regulations that give companies market power (as a result of lobbying rather than competitively earned product superiority). Competition policy therefore does not generally prohibit market power as such, but rather seeks to remove or prevent illegitimate or unearned market power. For instance, it focuses on fighting illegal cartels, punishing exclusionary conduct, reducing anti-competitive regulation or trade barriers, preventing mergers that create market power and empowering consumers. Attacking illegitimate market power also has the helpful effect of ensuring that opportunities to earn market power through productive investment are not crowded out or overlooked by rent-seeking investors that find it easier to acquire market power illegitimately, than by taking risks and earning it.

V. CONCLUSION

Some argue that competition policy has nothing to say about equality, and that any suggestion that it should do so amounts to using the wrong tools to attack the problem. Others argue that competition policy should explicitly reflect concerns over fairness, and should therefore protect firms from unfair competition, or protect jobs through "public interest" tests. We take the view that competition policy does not need to consider impacts of fairness or distribution but will nonetheless impact distribution of income because it likely has a default redistributive effect, particularly when a consumer surplus test is used as a decision standard. In short, our research suggests that since illegitimate market power itself can distort markets and redistribute towards *better-off* households, competition policy is a tool for preventing that regressive redistribution, and therefore could in fact have a non-trivial role in addressing inequality.

Today, we find that inequality is an increasing priority for many governments around the world. Once again, governments that want to address inequality can choose from a range of different approaches to the problem. On the one hand, they have traditional, reactive redistributive policies that wait for markets to play out and then tax and spend to reach a "just" distribution. On the other hand, they have proactive policies, such as competition policy, that act early to pre-empt market distortions and prevent illegitimate market power from regressively redistributing income and wealth in the first place.

Given the scope that we identify for market power to address concerns over inequality, without creating deadweight loss from taxation, and while driving productivity, we therefore suggest that one priority for governments wishing to reduce inequality is to look at strengthening their competition policy. This might begin with investing in vigorous competition law enforcement. However, it should not overlook the importance of demand side factors, or the need to guard against efforts to lobby for new industrial policies or regulations that protect firms from competition (or to retain existing regulations that do the same).

We are not suggesting that competition policy improvements will quickly result in changed wealth inequality within countries. There may be technological and trade-related reasons why wealth inequality has become stronger in some countries and why this may continue in the future. However, to the extent that political pressure exists to take actions to reduce inequality, it is important to balance the possible benefits that could arise from stronger competition policies compared to direct redistribution via taxation, which may blunt incentives and reduce growth if not accompanied by other policies.[8] In this balancing, it is crucial to emphasize the dual benefits of competition policy compared to many other policy responses, namely as a driver of productivity on the one hand and of more equal distribution on the other.

Future work is needed, particularly to address the extent to which this phenomenon is present in developing countries. In some developing countries, particular sectors may be in some sense allocated and protected, leading to higher margins than would occur in a completely competitive sector. Moreover, wealth may be highly concentrated, with Gini coefficients for some developing countries exceeding those of the countries in this analysis, which could be driven by market power but may also have other explanations, for example related to education. In sum, it would be valuable to gain a broader and more systematic understanding of the potential aggregate effect on wealth and income from uncompetitive sectors in both developed and developing economies.

8 See, e.g. Feldstein (1999), "Tax avoidance and the deadweight loss of income tax," *The Review of Economics and Statistic*s, November, 81(4): 674–680.