Prepared Testimony for the Parliament of Australia House of Representatives: Competition in Labor Markets and Antitrust Policy

Ioana Marinescu
Associate Professor, School of Social Policy and Practice, University of Pennsylvania
Principal Economist, United States Department of Justice Antitrust Division

Parliament of Australia House of Representatives
House Standing Committee on Economics
Inquiry into Economic Dynamism, Competition and Business Formation

March 30, 2023

Thank you for inviting me to submit a comment. My name is Ioana Marinescu and I am an Associate Professor at the School of Social Policy and Practice, University of Pennsylvania. I have served as the principal economist at the United States Department of Justice Antitrust Division since July 2022. I serve as an associate editor at the Quarterly Journal of Economics. I have written many academic articles focusing specifically on competition in labor markets, including economics and law articles. I am writing this comment as an expert in the field, and my comment does not reflect the official position of the United States Department Of Justice.

In my comment, I will make five points:

1. **Employers can suppress wages due to limited competition in the labor market**. Simply put, workers cannot easily find attractive alternative jobs in response to wage decreases (J. A. Azar, Berry, and Marinescu 2022). This allows an employer to pay a worker less than the marginal revenue product—the amount of value that the worker adds to the employer's bottom line.
2. **Many Australian and American labor markets are highly concentrated** (Hambur 2023; J. Azar et al. 2020), i.e. fewer than the equivalent of 4 equal-sized employers are competing for workers in these labor markets. This reduces alternative attractive job opportunities for workers.
3. **Wages fall when labor market concentration increases both in Australia and in the US** (Hambur 2023; J. Azar, Marinescu, and Steinbaum 2022). In the US, mergers decrease wages by increasing labor market concentration (Prager and Schmitt 2021; Arnold 2019).
4. **Antitrust enforcement in labor markets is growing in the US and across the world**. The US has sued companies for collusion in labor markets, and successfully blocked a merger that would have reduced compensation for labor services. Antitrust authorities in many countries including the United Kingdom, Spain, Romania, and Brazil have taken action against collusion in labor markets. Canada has passed new legislation forbidding agreements between employers not to poach each other's employees.
5. **In addition to antitrust enforcement, a broader policy agenda can help address the effects of a lack of competition in labor markets.** Unionization decreases the negative association between wages and labor market concentration in Australia and abroad (Hambur 2023; I. Marinescu, Ouss,

and Pape 2021). Further, because workers in concentrated labor markets are underpaid, there is room to increase the minimum wage without reducing employment in the US (Azar et al. 2019).

Employers can suppress wages due to limited competition in the labor market

When employers establish wages and working conditions, they seek to minimize their labor costs while attracting the workers they need in the production process. In a perfectly competitive labor market, where workers can at no cost quit and obtain comparable work at alternative employers, the employer pays a wage equal to the worker's marginal revenue product—the amount of value that the worker adds to the employer's bottom line. Such a wage "clears" the market, attracting all workers willing to work in return for it, and thus can be taken as a baseline for evaluating actual labor market conditions.

Real-world wages deviate from the competitive ideal when workers have limited alternative job options. The most direct measure of employers' labor market power — also called monopsony power — is the labor supply elasticity, which refers to workers' sensitivity to wages. An infinite elasticity means that a worker will quit (or not take a job) if the wage is reduced even a tiny amount below the competitive wage, while an elasticity of zero means that a worker will stay put (or still take a job) even if the wage is reduced significantly. Thus, an infinite elasticity would prevail in a perfectly competitive labor market while an elasticity of zero would prevail in a market with no effective competition.

Leveraging data on job applications from the large job board CareerBuilder.com in the US, we estimate how sensitive workers are to wages when applying for jobs. This allows us to approximately measure the labor supply elasticity (J. A. Azar, Berry, and Marinescu 2022). Based on the labor supply elasticity, we can infer how much employers are able to underpay workers and define a labor market for antitrust purposes. In our model, workers apply to the best possible jobs for them, allowing different workers to have different job preferences. We define a labor market by an occupation, such as "accountants and auditors" (a SOC-6 occupation), and a commuting zone. On CareerBuilder.com, 81% of job applications occur where the job applicant and prospective employer are within the same commuting zone (I. Marinescu and Rathelot 2018).

Workers first choose a labor market to apply to, and, second, they decide on the best job vacancy to apply to in their chosen market. We find **low labor supply elasticities, indicating that the labor market is not perfectly competitive and employers have significant market power**. Our analysis (J. A. Azar, Berry, and Marinescu 2022) shows that **US workers produce about 21% more than their wage level**. Using the labor market equivalent of the well-known SSNIP test used in antitrust litigation, we show that **essentially all labor markets defined by an occupation and a commuting zone are valid antitrust markets**.

A recent literature review by the US Department of the Treasury (US Department of the Treasury 2022) finds that labor supply elasticities are generally even lower than what I estimated in the work just discussed, implying that US employers have significant leeway to pay workers less than the marginal revenue product—the amount of value that the worker adds to the employer's bottom line.

Many Australian and US labor markets are highly concentrated

Measuring labor market concentration requires no new tools or methods. We can measure labor market concentration using the Herfindahl-Hirschman Index (HHI), which is what antitrust regulators already use for product markets. HHI is equal to the sum of the squares of the market shares of each firm in the market. In this case, market shares are based on the share of job vacancies of all the firms that post vacancies in that market. HHI has become conventional in industry concentration measures and has been used in the US government's Horizontal Merger Guidelines for some thirty-five years. The same HHI thresholds apply to both seller and buyer power. For example, according to the most recent 2010 Horizontal Merger Guidelines, an HHI above 1,500 is "moderately concentrated," an HHI above 2,500 is "highly concentrated," and a merger that increases the HHI by more than 200 points, leading to a highly concentrated market, is "presumed likely to increase market power." To give a sense of magnitude, when four firms compete for workers, each with one-fourth of available jobs, the HHI is at the high concentration threshold of 2,500.

To analyze Australian labor markets, (Hambur 2023) uses the Linked Employer-Employee Dataset (LEED) to calculate the yearly concentration of employment at the industry (ANZSIC 2006, 3-digit) by working zone level. **58 percent of Australian labor markets are highly concentrated**, representing 14% of Australian workers, as larger markets — where most workers are situated — tend to be less concentrated.

In the US, based on our research (J. Azar, Berry, and Marinescu 2019), a commuting zone by 6-digit Standard Occupational Classification (SOC) by quarter is generally a relevant antitrust market. To calculate the share of each firm among posted vacancies, we use data on all vacancies listed online in 2016 as collected by burningglass.com (J. Azar et al. 2018). We find that U.S. labor markets tend to be highly concentrated, with an average HHI of 4,378, which is equivalent to 2.3 firms hiring in the case of equal number of job vacancies for each firm. **Overall, 60 percent of US labor markets are highly concentrated, having an index above 2,500 HHI**, which corresponds to four firms hiring with equal shares in hiring. These highly concentrated markets account for 20 percent of U.S. employment (J. Azar et al. 2020).

Wages fall when labor market concentration increases both in Australia and the US

The term "monopsony" commonly refers to situations where a few companies dominate hiring in the labor market. Compared to a perfectly competitive labor market, monopsony leads to lower employment and lower wages. All else remaining equal, lower employment also entails lower production on the output (product) side. Ultimately, **imperfect competition in the labor market has the same kind of depressing effect on production as we see in cases of imperfect competition in the product market**. For the purpose of a merger review in labor markets, the most important question is whether a merger is likely to increase monopsony in a labor market, thus reducing wages and output.

To analyze the relationship between labor market concentration (HHI) and wages posted in US vacancies (J. Azar, Marinescu, and Steinbaum 2022), we use data from CareerBuilder.com, the largest online job board in the United States. We show that average posted wages are strongly and negatively correlated with labor market concentration as measured by HHI at the occupation (6-digit SOC) by commuting zone by quarter level. However, this correlation alone cannot be counted as strong evidence that higher concentration depresses wages in a causal sense, as wages in depressed labor markets also tend to be lower.

Instead of simply comparing different labor markets, we look at how changes in concentration within a given market over time affect wages. The data indicate that when labor market concentration increases, posted wages decrease, even after controlling for a number of key economic indicators. **In the US, posted wages are 5 percent to 17 percent in highly concentrated markets (75th percentile) compared to low concentration markets (25th percentile)**. Furthermore, **smaller cities are doubly disadvantaged by having higher levels of labor market concentration and by suffering more from any increase in concentration**.

The same type of analysis can be performed using Australian data (Hambur 2023). Concentration is measured at the industry by working zone by year level, using employment data. **In Australia, wages are on average 4.5 per cent lower in a highly concentrated industry (75th percentile HHI of 0.5), compared to a low concentration industry (25th percentile HHI 0.15).**

Antitrust enforcement in labor markets is growing in the US and across the world

US antitrust law is embodied in statutes that broadly prohibit anticompetitive practices in any kind of market. The most important of these statutes are section 1 of the Sherman Act, which prohibits “restraints of trade,” and section 2, which prohibits monopolization. US courts have acknowledged that the law equally applies to labor markets as it does to product and other markets (I. Marinescu and Hovenkamp 2019). However, until recently, antitrust cases involving labor market abuse have been exceedingly rare, far less common than product market cases (I. E. Marinescu and Posner 2020).

In July 2021, US President Joe Biden issued an “Executive Order on Promoting Competition in the American Economy.” **President Biden affirmed that “that it is the policy of [his] Administration to enforce the antitrust laws to combat the excessive concentration of industry, the abuses of market power, and the harmful effects of monopoly and monopsony — especially as these issues arise in labor markets** […]”. The order also required a report on the effects of a lack of competition in labor markets, which was eventually issued in March 2022 (US Department of the Treasury 2022).

The US Department of Justice Antitrust Division has taken multiple enforcement actions against employers fixing wages or agreeing not to poach each other’s workers. Wage fixing is a type of price fixing, and no poaching agreements are a form of market allocation, whereby competitors agree not to compete in each other’s markets. These offenses are a felony under the Sherman Act, and offenders can get prison sentences. As an example, in US vs. VDA (10/27/2023), the health care company VDA pleaded guilty to a conspiracy to fix the wages of Nevada school nurses. The company was sentenced to pay both a criminal fine and restitution to the affected nurses.

The US Department of Justice Antitrust Division successfully sued to block a merger that would have reduced the compensation for labor. The merger between the two publishers Penguin-Random House and Simon & Schuster was blocked in October 2022. The Antitrust Division predicted authors would have seen lower pay as a result of the merger, as the merger would lead to reduced competition in bidding for authors’ manuscripts. This was the first time a merger was blocked in the US on labor monopsony grounds.

Antitrust authorities have taken successful enforcement actions against employers engaging in wage-fixing and/or no poaching agreements in many countries around the world, including in Portugal, Poland, Hungary, Mexico, Greece, and Lithuania. Antitrust authorities in many more countries have started investigations into these practices, including the United Kingdom, France, Germany, Spain, the Netherlands, Finland, Croatia, Brazil, Romania, and Peru.

In June 2022, **Canada changed its Competition Act to protect competition in labor markets by prohibiting agreements between employers to fix wages and restrict job mobility**. The new section 45(1.1) will come into force on June 23, 2023.

Beyond antitrust, a broader policy agenda can help address the effects of a lack of competition in labor markets

In addition to antitrust policy, there are other tools (I. E. Marinescu and Rosenfeld 2022) that policy makers may consider using to address the low wages brought about by a lack of competition in the labor market.

First, if labor market concentration suppresses wages below workers' marginal productivity, then the minimum wage has the potential to enhance worker income without reducing employment. And indeed, we show that **minimum wage increases tend to increase employment in the most concentrated labor markets** (J. Azar et al. 2019).

Second, stronger union presence reduces the negative effects of a lack of competition on wages (I. Marinescu, Ouss, and Pape 2021; Prager and Schmitt 2021). **In Australia, the negative impact of labor market concentration on wages is smaller when union membership is higher** (Hambur 2023).

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