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Comment on "Female entrepreneurship, financial frictions and capital misallocation in the US"



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Morazzoni and Sy provide novel evidence consistent with discrimination in lending to women-owned businesses, which may misallocate capital and reduce aggregate output. The authors utilize the *Kauffman Foundation Firm Survey*, which follows about 5000 firms who entered in 2004 up to 2011 (so up to 7 years of operation at most). The paper presents four key findings:

- Only 23% of businesses in the sample are fully women-owned, compared to 59% who are fully men-owned, and 18% who have mixed ownership
- The ratio of revenue to assets is 12% higher on average for women-owned businesses than for men-owned businesses
- Women-owned businesses are 10 percentage points more likely to be turned down for a bank loan (controlling for other observables)
- In a standard model of firm dynamics, eliminating the gaps in the rate of return to capital across women-owned vs. men-owned businesses would increase aggregate output by 3.8%

I have five comments about this valuable paper, which concern 1. shares, 2. coverage, 3. trends, 4. whether the efficiency gains from eliminating discrimination could be a Pareto improvement (i.e., good for men as well as women), and 5. whether the results could reflect heterogeneous production elasticities rather than discrimination.

1. Shares

As Fig. 1 below shows, women-owned businesses are smaller on average so that they represent an even smaller share of activity than their 23% share of firm ownership. In particular, Morazzoni and Sy document that women-owned firms account 8% of revenue. Thus women are underrepresented on the extensive margin, but are also smaller on the intensive margin conditional on operating. Women-owned firms are *more* profitable on average, generating a higher share of profits than of revenue. Accounting profits could be misleading, however, so Morazzoni and Sy rightly look at the simple ratio of revenue to capital to get closer to the rate of return on capital. These patterns are qualitatively consistent with the paper's thesis that women-owned businesses are starved for capital.

Given enough substitutability between labor and capital, less access to financing could explain the larger share of employment (13%) than revenue (8%) at women-run firms. But the small share of total compensation at women-owned firms suggests something more – wages are notably lower at women-owned firms. This could reflect a additional distortions from

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Fig. 1. Shares at women-run firms. Source: Morazzoni and Sy (2022).



Fig. 2. Share trends. Source: Bento (2021).

current or past discrimination that affects human capital of women relative to men. See Hsieh, Hurst, Jones and Klenow (2019) for example.

2. Coverage

One limitation of this study is that the results are confined to young and therefore rather small firms. Such firms may not be representative of all firms, and do not account for most output or jobs. Less than 20% of employment is at firms that are less than 10 years old, for example, according to Garcia-Macia, Hsieh and Klenow (2019).

Morazzoni and Sy document that the gap in the revenue-capital ratio for women-owned vs. male-owned firms fades as firms age. This is potentially consistent with greater financial frictions facing women-owned firms, as such firms can choose to retain more of their earnings and reinvest them to save their way out of the financial constraints. But it might mean that such frictions are no longer material for larger privately-held firms, much less publicly-listed firms. By this logic, the 3.8% estimate of lost annual output from misallocation of capital across female-owned vs. male-owned businesses might be an overstatement for the aggregate economy.

But this is not so clear to me. The underrepresentation of women owners and executives seems quite high at the top. Less than 10% of Fortune 500 CEOs are women.¹ This suggests a misallocation of talent at the top, and one contributor could be differences in financing all along the career trajectory. And women are still underrepresented in many high-skilled occupations (Hsieh et al., 2019).

3. Trends

The short timeframe of the study means that it is hard to glean trends. Are women-owned firms becoming more prevalent and less constrained? Bento (2021) is a complementary paper covering trends from the early 1980s to the early 2010s. Using U.S. Census data, he finds a steadily rising share of women-owned firms, from around 28% in 1983 to around 46% in 2012. He documents much less convergence on the intensive margin, however, as revenue at women-owned firms rose only modestly from 29% in 1983 to 32% in 2012. See Figs. 2 and 3. Thus there are probably additional gains to be reaped from overcoming the remaining barriers to women entrepreneurs.

¹ https://fortune.com/2021/06/02/female-ceos-fortune-500-2021.



Fig. 4. Average product gaps by sector. Source: Morazzoni and Sy (2022).

4. Are declining barriers Pareto?

In my personal experience, many non-economists view the economic world as a zero-sum game. As a result, barriers to women entrepreneurs benefit men, they suppose. But economists see positive-sum gains from reallocation of capital and talent to their best uses. That is the source of the 3.8% aggregate gain in Morazzoni and Sy's study. Consequently, ending discriminatory barriers facing women has the potential to benefit men as well as women. This is particularly true for removing barriers facing female entrepreneurs, because better executives could raise wages for male workers.

Hsieh et al. (2019) looked at all occupations as purely substitutable, and hence found that declining discrimination against women resulted in lower wages for men (7% lower wages by 2010 than otherwise). They ignored the complementary between managerial ability and workers. Bento (2021) took this complementarity into account and estimated that the welfare of male *workers* rose 2% as women faced fewer barriers to running firms. But he did find that male *entrepreneurs* suffered a 6% loss of welfare from having to pay their workers more (or switch to being workers) in response to the ascent of female business owners. In India, where barriers to women-run firms might be even greater, Chiplunkar and Goldberg (2021) found that male worker wages would rise 15% (!) if barriers to women managers were dismantled.

Morazzoni and Sy carry out a more complete accounting of welfare effects. They find that male entrepreneur welfare would fall 6%, and male worker welfare would rise 3% if the higher financial frictions facing women entrepreneurs were lifted. As there are more male workers than managers, this is consistent with a 2% rise in overall male welfare (compared to a 5% increase in overall female welfare). For comparison, the rise in overall welfare is 3.5%, in the same ballpark as the 3.8% boost to aggegate output.

5. Heterogeneous production elasticities?

I was concerned that the higher average product of capital for women-run businesses could reflect a lower capital elasticity for the production function of women-run firms. The paper provides two reassurances that this is not what is going on. First, they control for 2-digit and 4-digit sector. The gaps are smaller within 4-digit sectors than within 2-digit sectors,

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but still notable. Thus the gaps are not purely a function of sectoral composition for women-run versus men-run firms. See Fig. 4.

Second, the gaps fade as businesses age. This is not what we would expect to see if female-run businesses had permanently lower capital elasticities. And, as mentioned, this attenuation with age is consistent with businesses saving their way out of financial frictions.

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