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Registration Reforms

Measuring the Effect on New Firm Creation

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More information on the Entrepreneurship Database, as well as complete data, can be found at http://www.doingbusiness.org/entrepreneurship.

How do reforms in business registration affect new firm registrations? New research using data from the World Bank's Doing Business project and the 2010 World Bank Entrepreneurship Database studies this question. It finds that substantially reducing the cost, time, or procedures required to start a business can significantly increase new registrations. But small reforms—reducing the cost or time by less than half—generally have no significant effect. Combining multiple reforms can change this. In economies with a relatively weaker entrepreneurial environment, reforms need to be relatively larger to be effective.

To promote private sector growth, many economies have directed considerable resources toward simplifying the business registration process. These efforts have been encouraged by the World Bank, most notably through its Doing Business project. Each year the Doing Business project tracks reforms in "Starting a Business" (and nine other topics). It also ranks economies on the overall ease of registering a business, based on their rankings on the cost, time, procedures, and minimum capital required to complete the process. According to the *Doing Business 2011* report, the top reformer in Starting a Business in 2009/10 was Peru, which reduced the number of procedures required to register a business from 9 to 6, the time required from 41 days to 27, and the total cost from US$685 to US$564. These reforms bumped Peru from 103rd to 52nd in the global ranking on Starting a Business.

But what do these reforms mean in practice? Did Peru's reforms spur new business registrations? If so, how large was the effect? Could a smaller reform have generated the same impact? Do reforms that simultaneously affect more than one aspect of the registration process—such as by reducing both the cost and the number of procedures—pack an especially large punch? This Note summarizes new research investigating these questions (see Klapper and Love 2011).

The data and methodology

The key output variable in the analysis is entry density, calculated as the number of newly registered limited liability firms per 1,000 working-age adults (ages 15–64) per year. These data were collected directly from business registries in each economy as part of the 2010 Entrepreneurship Database. The main input variables are the

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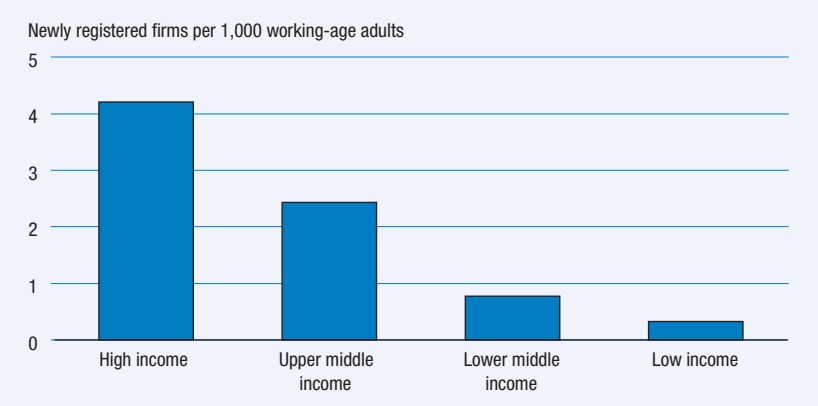
Figure 1 **Entry density across income groups, average, 2004–09**



Source: Entrepreneurship Database, 2010 edition.

cost, time, procedures, and minimum capital required to formally register a business, taken from the Doing Business database. Importantly, the unit of measurement in both data sources is private companies with limited liability. Combining the two databases provides an unbalanced panel of 487 observations from 91 economies over the period 2004–09, on which the analysis is based.

Entry density varies significantly across economies: it ranges from about four limited liability firms registered annually per 1,000 working-age adults in high-income economies to about one in low- and middle-income economies (figure 1). There is also much variation in the business registration variables across economies: while registering a business takes just 1 procedure in Canada, it requires 18 separate procedures in Uganda.

To determine the effect of business registration reforms on new firm registrations, the research classifies reforms according to the year-on-year percentage reduction they represent for an indicator. For example, between 2006 and 2007 Georgia reduced the time required to register a business from 16 days to 11, a 31 percent reduction. Georgia is therefore classified in the 30 percent reform category in registration time for 2007 and subsequent years (since reforms may have a lagged effect).

The categories are not mutually exclusive; an economy must merely pass a cutoff threshold to be classified in a given reform bucket. Thus Georgia's 31 percent reduction in time also classifies it as a 20 percent reformer in the registration time category. Clearly, as the cutoff increases, more significant changes are required and the number of reformers declines. For example, 55 economies achieved at least one 20 percent year-on-year reduction in registration time over the period 2004–09, but just 21 were able to reduce registration time by at least 60 percent (table 1).

The research also investigates the effect of multiple reforms on new business registrations. Multiple reforms could occur during the same year ("simultaneous" reforms) or over a period of years ("sequential" reforms). For example, in addition to reducing the time required to register by more than 30 percent in 2007, Georgia also reduced the number of procedures from 7 to 5, a 29 percent reduction, in that same year. The country is therefore classified as having achieved two simultaneous reforms at the 20 percent level for 2007 and subsequent years.

Again, as the cutoff and number of reforms increase, more significant changes are required and the number of reformer economies declines. While 66 economies had at least two 20 percent sequential reforms over the period 2004–09, only 2 economies had simultaneous reforms reducing three or more indicators by at least 60 percent in a single year (table 2).

Separate regression analyses are performed to determine the effect of each type of reform

Table 1 **Economies by number of reforms with different cutoff points**

Cutoff	Procedures reform	Time reform	Cost reform	Minimum capital reform
20%	38	55	56	39
30%	27	47	41	28
40%	16	39	28	23
50%	8	31	16	23
60%	3	21	7	22

Source: Authors' analysis.

Table 2 **Economies by number of simultaneous or sequential reforms with different cutoff points**

Cutoff	One or more reforms	Two or more sequential reforms	Two or more simultaneous reforms	Three or more sequential reforms	Three or more simultaneous reforms
20%	78	66	50	52	26
30%	67	50	34	29	14
40%	56	34	22	16	8
50%	45	24	14	12	5
60%	34	17	7	6	2

Source: Authors' analysis.

(for example, a 20 percent reduction in registration procedures) on new firm registrations. Importantly, the analysis looks at variation *within* economies over time by controlling for time-invariant country characteristics.

What the results show

The research finds that large registration reforms can significantly boost new firm registrations. For example, the analysis suggests that a 20, 30, or 40 percent reduction in registration time does not significantly increase new firm registrations (table 3). But the 31 economies that had at least one year-on-year reduction in registration time of 50 percent or more experienced a statistically significant boost in new firm registrations. The results are similar for reductions in registration cost. For procedures, by contrast, even a 20 percent reduction is effective in spurring new firm registrations—though as table 1 shows, fewer economies achieved a 20 percent reduction in procedures than did so in time or cost.

Among OECD high-income economies in the sample, a reduction of 50 percent or more in registration cost leads to an increase in new registrations of 19 percent on average, and a reduction of 50 percent or more in registration time to an increase of 30 percent.

The research finds important complementarities in simultaneous and sequential reforms. The results show that there is something of a trade-off between the magnitude of reform and the number of reforms. For a single reform to have a significant effect on new firm registrations, it must generally reduce a registration indicator by at least 50 percent. But three sequential or simultaneous reforms at the 30 percent level

Table 3 **Regression results for single reforms**

Cutoff	1 Procedures reform	2 Time reform	3 Cost reform	4 Minimum capital reform
20%	0.434**	–0.008	0.070	0.332*
	[0.012]	[0.951]	[0.610]	[0.066]
30%	0.454**	0.133	0.038	0.264
	[0.032]	[0.432]	[0.827]	[0.164]
40%	0.519**	0.197	0.142	0.420*
	[0.019]	[0.303]	[0.493]	[0.062]
50%	0.417	0.380**	0.641**	0.420*
	[0.166]	[0.042]	[0.030]	[0.062]
60%	0.085	0.594**	0.785**	0.402*
	[0.434]	[0.016]	[0.022]	[0.096]

Note: Analysis is based on an unbalanced panel of 487 observations from 91 economies for the period 2004–09. The dependent variable is entry density. The reported independent variable is a reform dummy denoted by the reform variable (columns 1–4) and the cutoff level in each row. Each cell represents a separate regression. All models include country and year fixed effects and control for lagged GDP growth and four Doing Business indicators: Registering Property, Getting Credit, Enforcing Contracts, and Resolving Insolvency. Standard errors are clustered at the country level. P-values are in square brackets.
** Significant at the 5 percent level. * Significant at the 10 percent level.
Source: Authors' analysis.

will, on average, generate a significant increase in new firm registrations. Controlling for the magnitude and number of reforms, the analysis shows that simultaneous reforms generally have a larger effect than sequential reforms.

The results also show that economies with a relatively weaker business environment need to implement relatively larger reforms in order to have an impact on new firm registrations. For procedures, however, as before, even small reforms reducing the number by 20 or 30 percent are effective in most economies (except in those with the very worst initial conditions). But the effect is larger in economies with better prereform registration indicators.

Conclusion

The research shows that the ease of starting a business is a significant predictor of new business registrations. But it also shows that small reforms generally have no significant effect on new firm registrations. This suggests that "token" reforms, perhaps motivated by political or multilateral pressure to reform, will not have the intended effect on private sector activity. There is also evidence of synergistic effects of reforms. The results should motivate policy makers to undertake larger, more significant, and more comprehensive reforms.

Note

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