Measuring the cost of red tape

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Globally, the private sector is the largest employer—9 of every 10 jobs are in the private sector (in formal or informal firms and farms).[1] But rules and regulations that can hinder its development persist around the world. Rules and regulations are essential for a well-functioning private sector—they help protect property rights, aid in resolving disputes and increase the clarity and predictability of economic transactions.[2] Yet they can come at a cost for firms, especially when they are not applied in the most efficient way.

This note estimates the costs to firms from inefficient business regulations. Using the *Doing Business* data, we identify the time it takes in countries around the world for 6 major transactions regulated by governments: starting a business, transferring property, paying business taxes, exporting goods, importing goods and using courts to resolve a commercial dispute. We also use the *Doing Business* data to identify the best practice in efficient regulation of these transactions. To identify the number of firms potentially affected by these transactions, we use the World Bank's Entrepreneurship Database.

Based on these data, we estimate that if the governments of 90 economies had applied best practice in regulating business entry in 2012, more than 45 million days of entrepreneurs' time could have been saved. Around 74 million days could have been saved in transferring property, around 207 million days in importing and exporting, around 468 million days in resolving commercial disputes through the courts and around 772 million days in preparing, filing and paying business taxes (table 1). These figures, equivalent to several million man-years, highlight the burden placed on the business community by government regulations that depart—sometimes substantially—from best practice. Another way to look at the implied time losses associated with excessively complex regulations is to note that compliance with the requirements of these 6 procedures is equivalent to 42.9 years of uninterrupted work (365 days a year, with no breaks) by an army of 100,000 workers. To put things in perspective, this is equivalent to building 13[1] Panama Canals every year.

Table 1. Potential time and monetary savings if more efficient regulations had been applied, 2012

Transaction	Best practice (days)	Aggregate time (millions of days)	Time if best practice followed (millions of days)	Time saved if best practice followed (millions of days)	Forfeited gains in 2012 (US$ billions)
Starting a business	0.5	46.9	1.5	45.3	2.6
Transferring property[a]	1.0	77.7	3.1	74.6	6.5
Paying taxes	11.0	1,116.4	344.3	772.1	51.1
Exporting a 20-foot container[b]	4.0	6.9	2.9	4.0	2.5
Importing a 20-foot container[c]	6.0	282.1	78.8	203.3	12.5
Going to court to resolve a commercial dispute[d]	150.0	1,569.4	1,101.0	468.4	106.2

a. Estimates assume that 10% of companies transferred property once in 2012.

b. Estimates assume that 15.4% of companies exported directly or indirectly (at least 1% of sales) in 2012.

c. Estimates assume that 63.1% of companies used material inputs or supplies of foreign origin in 2012.

d. Estimates assume that 10% of companies went to court to resolve a commercial dispute in 2012.

Source: Based on data from the *Doing Business* database and Entrepreneurship Database. Calculations based on 90 economies.

[1] http://www.pancanal.com/eng/history/history/

What is the economic cost associated with the gap between best practice and countries' actual practice in business regulation? An estimate suggests that firms in 90 economies could have saved close to $180 billion in 2012 if they had faced a more efficient set of business regulations. More than half of these gains would have come from the potential savings in the time cost associated with going to court to resolve a commercial dispute.

What are the data sources and the approach for estimating potential savings?

The data to measure time come from some of the indicators covered by the *Doing Business 2014* report.[3] The starting a business indicators measure the procedures, time and cost required for an entrepreneur to start up and formally operate a commercial business. The registering property indicators record the full sequence of procedures involved in the transfer of a company property as well as the associated time and cost. The paying taxes indicators record the taxes and mandatory contributions that a medium-size company pays in the course of a year as well as the time it takes to prepare, file and make the payments. The trading across borders indicators track the time and cost associated with exporting and importing a 20-foot container. These indicators record only official procedures and exclude the time and cost for sea transport. Finally, the enforcing contracts indicators measure the efficiency of the judicial system in resolving a commercial dispute.

Doing Business measures time in calendar days and records only official costs. Except for paying taxes, it is assumed that the minimum time required for each procedure is 1 day, unless the procedure can be fully completed online in a few hours, in which case the time is recorded as half a day. For paying taxes, time is recorded in hours per year.

By assuming that companies followed the rules and regulations for the transactions measured by *Doing Business*, it is possible to calculate the aggregate time spent in dealing with red tape in each country. The potential time savings for each transaction are calculated as the difference between the aggregate time across firms needed to complete the transaction and the aggregate time if the best practice was followed in that country. For example, in Peru entrepreneurs registered 74,145 new limited liability companies in 2012, spending a total of 1.854 million days dealing with the formalities of business registration. If they had registered those firms in New Zealand, where the entire process takes 0.5 day, they would have spent 37,000 days doing so, saving 1.817 million days of their time.

The opportunity cost of time is calculated as the ratio of gross national income (GNI) to the working-age population. This serves as an estimate of the average annual salary. We divide this number by 365 to get the daily gains. The losses that can then be attributed to bureaucracy in a country are the opportunity cost of the total extra time that was spent dealing with formalities because the country does not follow best practice.

All formally registered companies have to go through the process of registration and of filing their taxes. But not all companies will undertake all stages of their business cycle in a given year, such as purchasing property or going to court to resolve a commercial dispute. We therefore consider only a percentage of the total number of companies in a country in the calculations. We use different assumptions for these percentages to test the range of results.

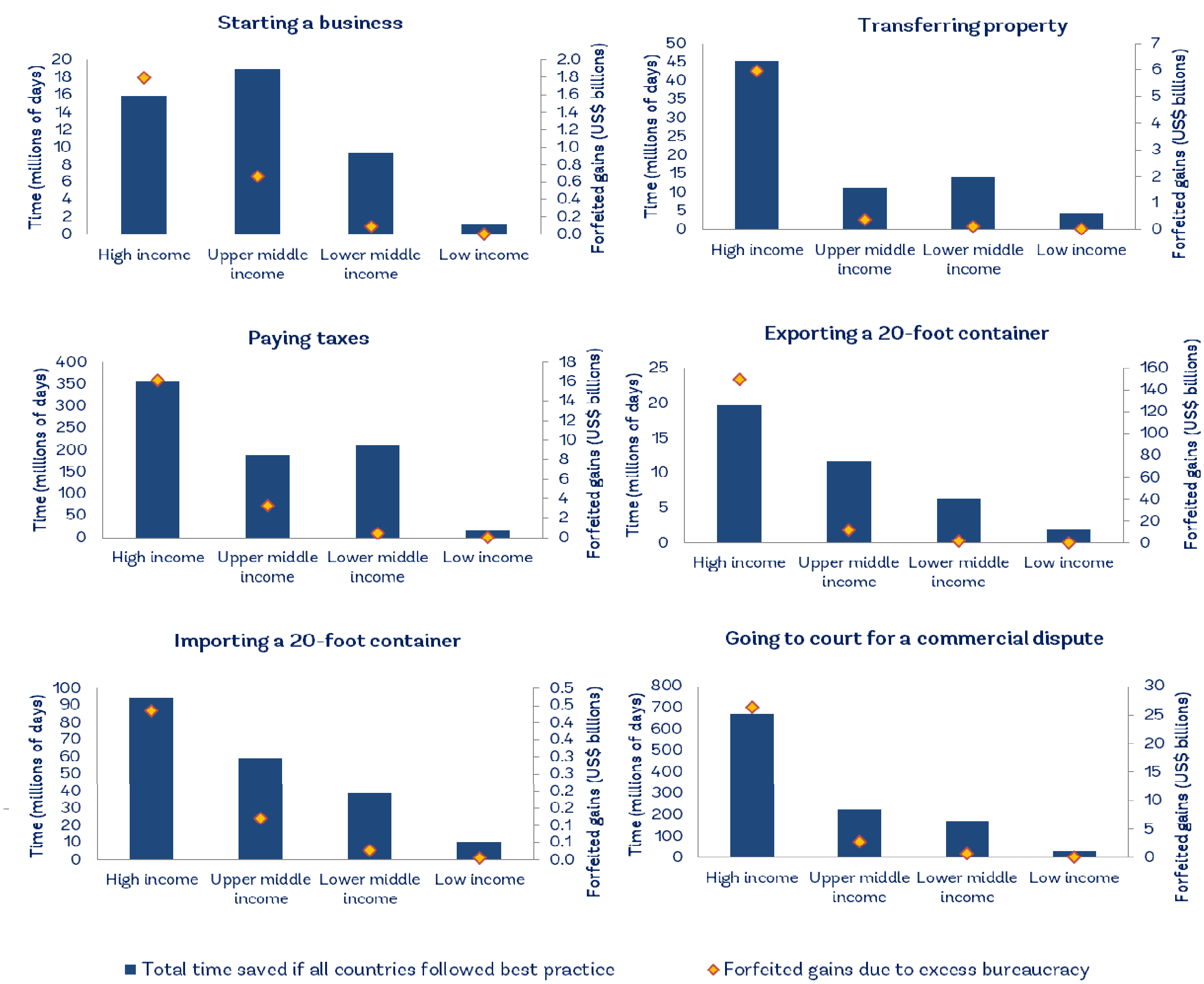
The data on limited liability companies come from the World Bank's Entrepreneurship Database.[4] The database project collects data annually from 139 economies on the number of newly registered limited liability companies as well as the total number of firms in operation. The data on GNI and the working-age population come from the World Bank's World Development Indicators database.[5]

Where do the potential savings come from?

In monetary terms, high-income economies have the most to gain from more efficient business regulation (figure 1). This results from two facts: First, the opportunity cost of time in these economies is very high compared with that in other income groups. And second, this income group has the largest number of firms, both in total and for new firms. Thus while this income group has shorter transaction times, this is offset by its larger numbers of existing and newly registered companies. The same logic applies to low-income economies, where transactions take longer but there are fewer companies and start-ups, resulting in less time in aggregate. The second fact also explains the high potential time savings in high-income economies. This income group has the greatest potential time savings across all types of transactions except starting a business.

Figure 1. Where are the greatest potential aggregate savings?

Aggregate burden of bureaucracy by type of transaction, 2012

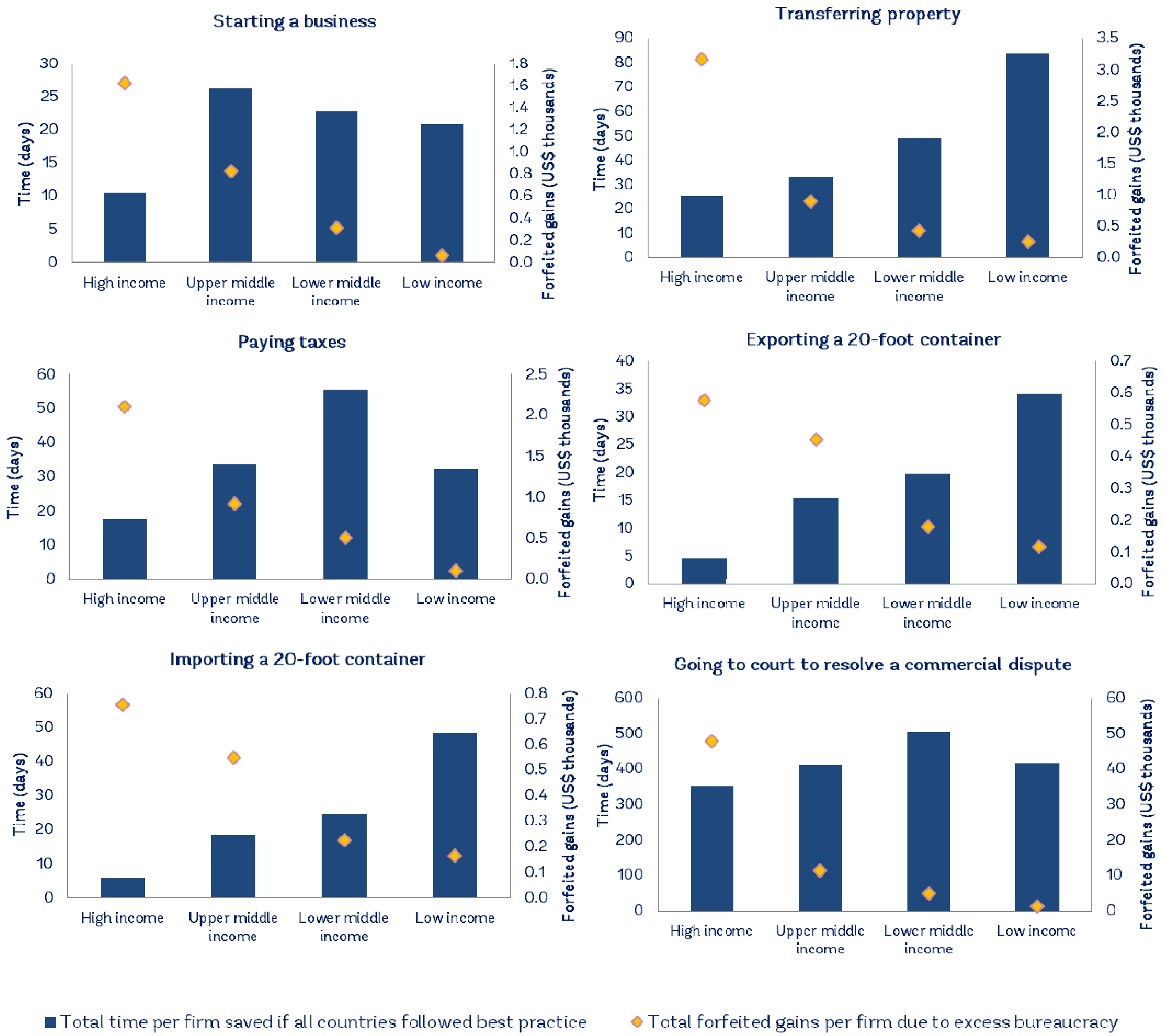


Source: Based on data from the *Doing Business* database and Entrepreneurship Database. Calculations based on 90 economies.

The results differ considerably when the data are analyzed at the average firm level rather than aggregated across all firms (figure 2). The potential monetary savings continue to be greatest in high-income economies, across all 6 transactions. But the potential time savings are greatest in lower middle-income, followed by low-income economies. The reason is that completing the 6 transactions takes longer on average in those income group economies (table 2).

Figure 2. Where are the greatest potential savings per firm?

Average burden of bureaucracy by type of transaction, 2012



Source: Based on data from the *Doing Business* database and Entrepreneurship Database. Calculations based on 90 economies.

Table 2. Limited liability companies and average time required to complete transactions by region and income group, 2012									
Region or income group	New limited liability companies	Total limited liability companies in operation	Average opportunity cost of one workday (US$)	Average time required to complete transaction					
				Starting a business (days)	Transferring property (days)	Paying taxes (days)	Exporting a 20-foot container (days)	Importing a 20-foot container (days)	Resolving a commercial dispute (days)
Latin America & Caribbean	344,922	390,579	30.1	40.2	64.5	64.1	17.1	19.7	794.6
South Asia	133,048	1,153,565	6.7	17.2	81.3	56.4	27.0	27.8	1,048.5
Sub-Saharan Africa	386,589	2,665,612	12.3	20.5	66.2	56.4	26.6	35.4	555.2
East Asia & Pacific	333,952	2,931,937	59.4	26.7	31.9	28.9	13.7	13.9	431.7
Eastern Europe & Central Asia	787,048	7,828,384	31.2	12.0	25.0	43.5	25.5	26.6	438.3
OECD high income	1,027,987	15,897,587	172.8	11.1	25.3	29.9	10.3	9.5	514.2
Low income	64,650	466,839	3.2	21.4	84.9	43.3	40.1	52.6	565.9
Lower middle income	356,210	2,631,352	10.8	23.3	50.1	66.8	25.8	28.8	655.4
Upper middle income	902,904	6,453,162	28.0	26.7	34.4	44.7	21.4	22.7	562.6
High income	1,727,717	21,677,938	152.0	10.9	26.3	28.7	10.8	9.9	501.4

Source: Based on data from the *Doing Business* database and Entrepreneurship Database. Calculations based on 90 economies.

How have the potential savings evolved over time?

For each of the 6 transactions the global average time has decreased over time.[6] For example, the average time to start a business fell from 33 days in 2008 to 20 in 2012—and the average time to transfer property from 57 days to 40 (table 3). The average time required for other transactions shows similar trends though of different magnitudes.

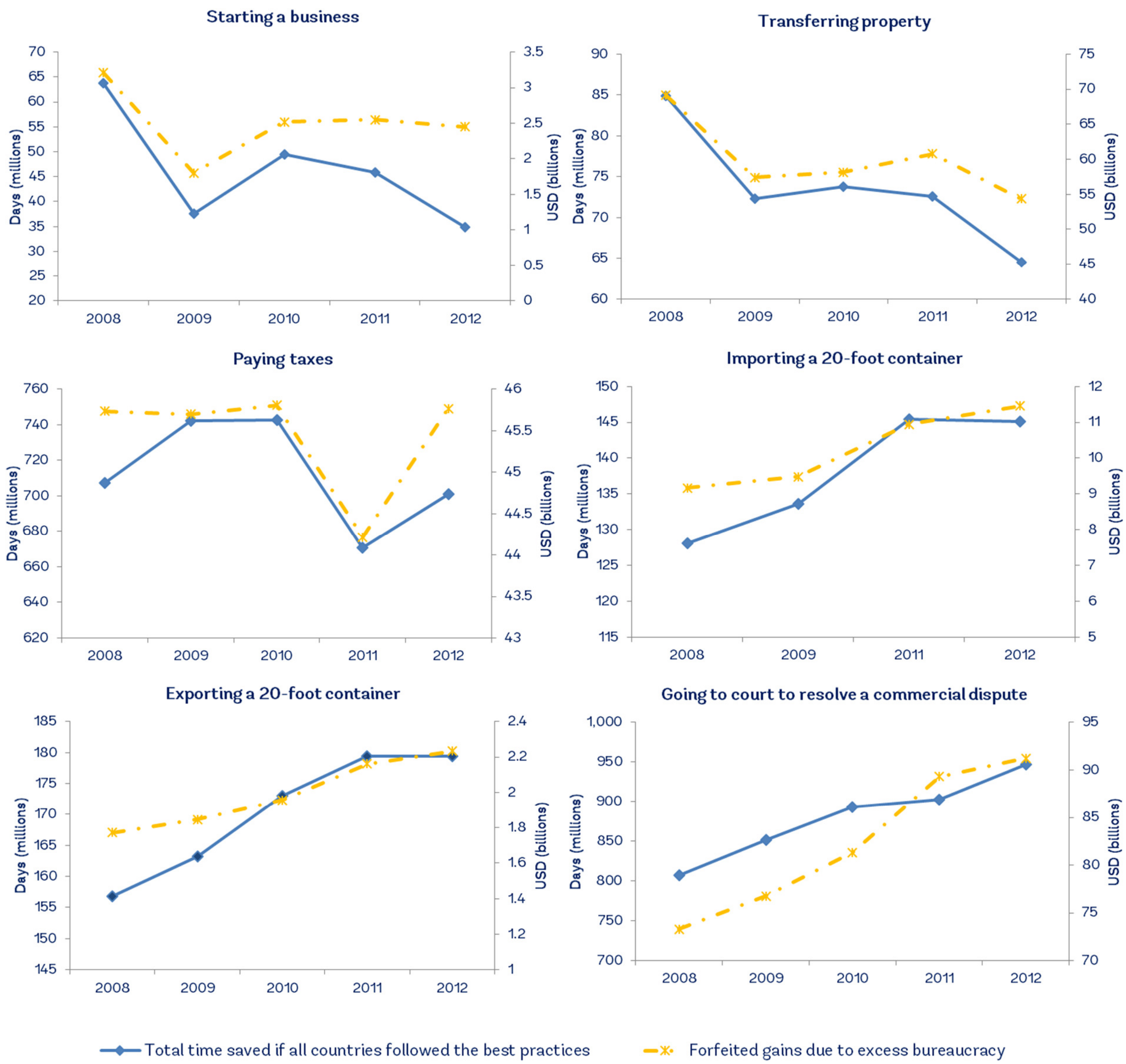
Table 3. Historical averages for limited liability companies and time required to complete transactions by year, 2008–12									
Year	Average number of new limited liability companies	Average total number of limited liability companies	Average time required to complete transaction						Average daily opportunity cost (US$)
			Starting a business (days)	Transferring property (days)	Paying taxes (days)	Exporting a 20-foot container (days)	Importing a 20-foot container (days)	Resolving a commercial dispute (days)	
2008	31,196	276,375	33	57	47	21	22	560	62
2009	22,676	291,779	31	48	46	20	21	558	62
2010	28,120	307,965	28	45	45	20	20	562	63
2011	29,706	320,712	27	43	42	20	21	559	67
2012	30,415	334,604	20	40	42	19	20	557	69

Source: Based on data from the *Doing Business* database and Entrepreneurship Database. Calculations based on 80 economies.

The trends in potential time and monetary savings vary across types of transactions. There are 2 important components of our calculations that have evolved in different directions: the average time per transaction and the total number of firms or transactions. The average time per transaction has decreased while the number of transactions has increased. The evolution of the aggregate potential time savings depends on the type of transaction. For example, the aggregated potential time savings to start a business has fallen by around 45% while the aggregate time to import has increased by 13% (figure 3). The gains forfeited because of red tape have increased for all transactions except starting a business and transferring property.

Figure 3. How has the cost of bureaucracy changed over time?

Aggregate burden of bureaucracy by type of transaction, 2008–12



Source: Based on data from the *Doing Business* database and Entrepreneurship Database. Calculations based on 80 economies.

How sensitive are the results?

Of the 6 transactions covered here, 4 are transactions that may or may not be carried out by all firms. Some firms will not buy or sell property in a given year, while others may conduct several such transactions in a year. The same applies to going to court to resolve a commercial dispute. Similarly, some firms import or export several times a month, while others do not import or export at all during a year. The other 2 transactions affect a clear number of firms: All businesses newly registered in a given year are affected by the process applicable in that year for starting a business. And all firms (new or old) are affected by the process of preparing, filing and paying business taxes.

Estimating how often firms transfer property or go to court to resolve a commercial dispute is very difficult. For these transactions, therefore, we compute our estimates assuming that a range from 5% to 20% of limited liability companies engage in them once a year. In our standard scenario we assume that 10% of firms transfer property or go to court in a given year. The total potential savings vary considerably depending on the assumption used. Yet even the conservative estimate, assuming that 5% of firms engage in these transactions in a year, reveals the potential efficiency gains, particularly in resolving a commercial dispute through the courts (table 4).

Estimating how many firms engage in importing or exporting is easier because of the data available. Data from the World Bank Enterprise Surveys allow us to estimate that 63.1% of firms in developing economies import some of their materials and 15.4% export some of their final goods.[7] The Enterprise Surveys provide firm-level data on a representative sample of an economy's private sector. The data are collected through face-to-face interviews with top managers and business owners of more than 130,000 companies in 135 developing economies.

There are 2 caveats in using Enterprise Survey data to estimate the percentage of firms that import and export. First, the data cover only developing economies. Second, while the *Doing Business* indicators on trading across borders look only at transactions through seaports, Enterprise Survey data include all types of export and import transactions. Moreover, we assume that both importing and exporting firms complete only one transaction (involving one 20-foot container) in a year.

To test the relevance of these assumptions, we try different percentages for the firms that import or export. The results do not change significantly with the different assumptions.

Table 4. The range of potential time and monetary savings under different assumptions, 2012

		Scenario 2				Scenario 3			
Transaction	Best practice (days)	Aggregate time (millions of days)	Time if best practice followed (millions of days)	Time saved if best practice followed (millions of days)	Forfeited gains in 2012 (US$ billions)	Aggregate time (millions of days)	Time if best practice followed (millions of days)	Time saved if best practice followed (millions of days)	Forfeited gains in 2012 (US$ billions)
Starting a business	0.5	46.9	1.5	45.3	2.6	46.9	1.5	45.3	2.6
Transferring property[a]	1.0	38.9	1.6	37.3	3.2	155.5	6.2	149.2	12.9
Paying taxes	11.0	1,116.4	344.3	772.1	51.1	1,116.4	344.3	772.1	51.1
Exporting a 20-foot container[a]	4.0	4.4	1.9	2.6	1.6	11.1	4.7	6.4	4.0
Importing a 20-foot container[a]	6.0	223.6	62.5	161.1	9.9	313.0	87.4	225.5	11.2
Going to court to resolve a commercial dispute[a]	150.0	784.7	550.5	234.2	53.1	3,138.9	2,202.0	936.9	212.4

a. Estimates assume that the following percentages of firms engaged in each transaction in the 2 alternative scenarios:

	Scenario 2	Scenario 3
Transferring property	5%	20%
Exporting a 20-foot container	10%	25%
Importing a 20-foot container	50%	70%
Going to court to resolve a commercial dispute	5%	20%

Source: Based on data from the *Doing Business* database and Entrepreneurship Database.

In addition to these assumptions, other important caveats should be understood when using the data. First, the estimates of the opportunity cost of time do not take into account the fact that some of the time is idle time. For example, in Sri Lanka it takes 52 days to transfer property between 2 firms. Part of this time is spent at the land registry and other agencies to get the process done. But another part is spent just waiting—and during this time the entrepreneur can be engaging in other activities. We count both cases as having the same opportunity cost because we do not have enough information to distinguish between them. By doing so we may be overestimating the cost of red tape.

Second, we assume that the opportunity cost is the same within a country and equal to the average salary. This may not be the case, since there is a wide range of income levels within any country. Because entrepreneurs are more likely than other working-age people to have above-average incomes, we may be underestimating the cost through this simplifying assumption.

Notes

[1] World Bank 2012.
[2] World Bank Group 2013. See the chapter "Research on the Effects of Business Regulations" for an extensive discussion on the benefits of efficient business regulations.
[3] http://www.doingbusiness.org.
[4] http://www.doingbusiness.org/data/exploretopics/entrepreneurship.
[5] http://data.worldbank.org/data-catalog/world-development-indicators.
[6] The analysis in this section uses a different sample size than that in the previous sections. Doing Business and the Entrepreneurship Database published information for a common set of 96 economies in 2008 and 107 economies in 2012. Data on total limited liability companies are available for 80 economies in 2008 and for 90 in 2012. To keep the same base of comparison, the analysis in this section keeps the sample size constant and equal to that in 2008 throughout the 5 years covered, leading to slightly different results than those presented in the previous sections.
[7] http://www.enterprisesurveys.org.

References

World Bank. 2012. *World Development Report 2013: Jobs.* Washington, DC: World Bank.

World Bank Group. 2013. *Doing Business 2014: Understanding Regulations for Small and Medium-Size Enterprises.* Washington, DC: World Bank.