

Dealing with construction permits



In the Paraguayan city of Asunción 2 years ago, builders complained about long delays in the issuance of building permits. Municipal authorities blamed the builders, saying that they submitted applications without the proper documentation and then could not be reached when follow-up was needed. Who was right? Neither. The problem arose with a group of “expeditors” who were taking advantage of the fact that the documentation requirements for permit applications were not publicly available.

The expeditors, claiming that the municipality’s process for issuing permits was extremely slow, had offered builders their services to speed it up. In reality, they submitted incomplete information, including incorrect contact information. Then they told the builders that the municipality was reviewing the documents—and blamed delays on public officials. Creating the illusion of a complex process was in their interest, to justify their fees.

In 2009 the municipality of Asunción, with help from the national government, started a public-private dialogue on the issue. After a constructive exchange, the municipality made the list of documents and other requirements publicly available. It also created a checklist to show whether the documentation presented for a building permit application was correct and complete. If not, the application would receive a big, clear “incomplete” stamp. Now builders could immediately see whether expeditors had submitted all the correct information. The changes went further. The building authority created an office to guide builders in how to apply for construction permits. The aim was to make the expeditors unnecessary. The efforts seem to have paid off. Delays at the municipality were reduced by almost 2 months in the past year.

To measure the ease of dealing with construction permits, *Doing Business* records

the procedures, time and cost required for a small to medium-size business to obtain all the necessary approvals to build a simple commercial warehouse and connect it to water, sewerage and a fixed telephone line (figure 1). The case study includes all types of inspections and certificates needed before, during and after construction of the warehouse. To make the data comparable across 183 economies, the case study assumes that the warehouse is located in the periurban area of the largest business city, is not in a special economic or industrial zone and will be used for general storage activities.

WHY DOES CONSTRUCTION PERMITTING MATTER?

Good construction regulation matters for public safety. It also matters for the health of the building sector and the economy as a whole. According to a recent study, the construction industry accounts on average for 6.5% of GDP in OECD economies.¹ The building sector is Europe’s largest industrial employer, accounting for about 7% of employment. In the European Union, the United States and Japan combined, more than 40 million people work in construction.

It is estimated that for every 10 jobs directly related to a construction project, another 8 jobs may be created in the local economy. Small domestic firms account for most of the sector’s output and most of its jobs.²

Public safety and efficiency

Striking the right balance is a challenge when it comes to construction permitting. Good regulations ensure the safety standards that protect the public while making the permitting process efficient, transparent and affordable for both building authorities and the private professionals who use it (table 1). If procedures are overly complicated or costly, builders tend to proceed without a permit.³

By some estimates 60–80% of building projects in developing economies are undertaken without the proper permits and approvals. In the Philippines 57% of new construction is considered illegal. In the Arab Republic of Egypt this share might reach 90%.⁴ In Georgia before the new permitting process that was initiated in 2005, fewer than 45% of construction projects had legal permits.

FIGURE 1 What are the time, cost and number of procedures to comply with formalities to build a warehouse?

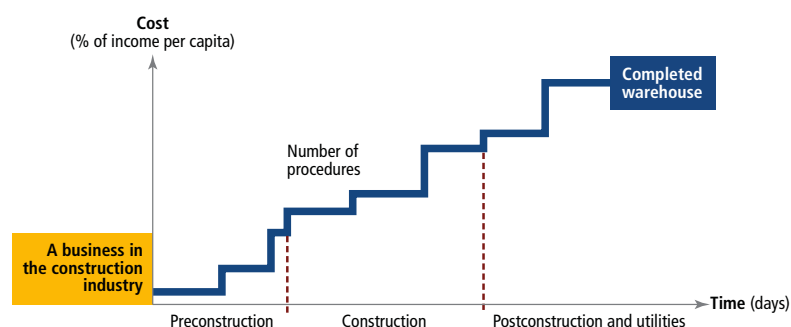


TABLE 1 Where is dealing with construction permits easy—and where not?

Easiest	RANK	Most difficult	RANK
Hong Kong SAR, China	1	Guinea	174
New Zealand	2	Serbia	175
Singapore	3	Tanzania	176
Georgia ^a	4	Tajikistan	177
Saudi Arabia ^a	5	Russian Federation	178
St. Vincent and the Grenadines	6	China	179
Bahrain	7	Ukraine	180
Marshall Islands	8	India	181
Belize	9	Albania ^b	182
Denmark	10	Eritrea ^b	183

Note: Rankings are the average of the economy's rankings on the procedures, time, and cost to comply with formalities to build a warehouse. See the data notes for details.

a. Georgia and Saudi Arabia are tied in the rankings.

b. No practice economy. Albania and Eritrea are tied in the rankings.

Source: *Doing Business* database.

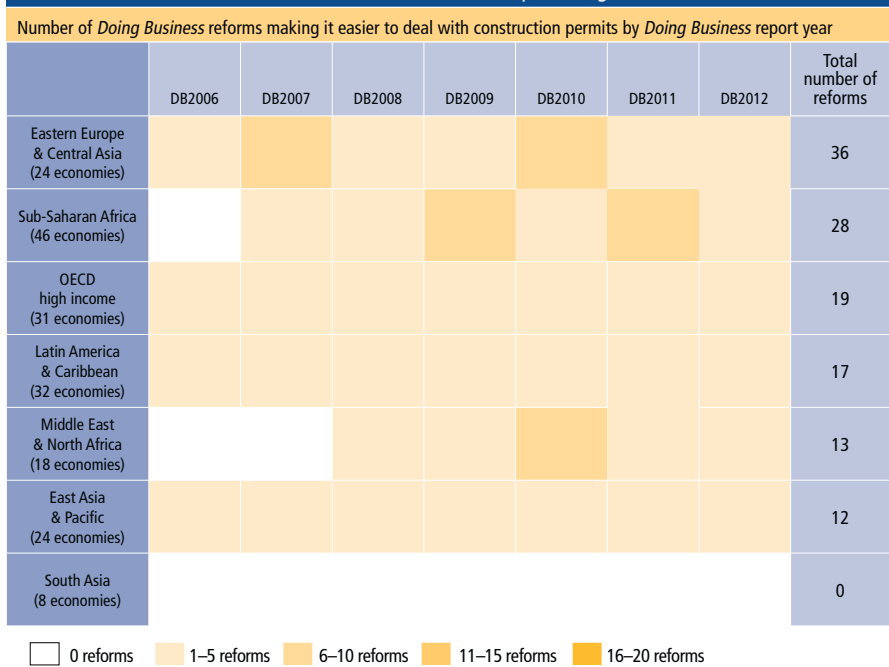
Where informal construction is rampant, the public can suffer. Take the case of Nigeria, which lacks an approved building code that sets the standards for construction. Many of the buildings erected do not comply with proper safety standards. Without clear rules, enforcing even basic standards is a daunting task. Structural incidents have multiplied.

According to the Nigerian Institute of Building, 84 buildings collapsed in the past 20 years, killing more than 400 people.⁵

TABLE 2 Who made dealing with construction permits easier in 2010/11—and what did they do?

Feature	Economies	Some highlights
Reduced time for processing permit applications	Mexico; Paraguay; Portugal; São Tomé and Príncipe; United Kingdom	Mexico reduced the time needed to issue zoning certificates by consolidating internal administrative procedures and hiring more staff.
Introduced or improved one-stop shop	Mauritania; Morocco; Taiwan, China	Mauritania launched a one-stop shop, eliminating 4 procedures and reducing the time to obtain a building permit and necessary approvals by 49 days.
Reduced fees	Burkina Faso; Burundi; Democratic Republic of Congo	Burundi changed the fee structure for geotechnical studies, reducing the cost of dealing with construction permits by 1,968% of income per capita.
Streamlined procedures	FYR Macedonia; Puerto Rico (U.S.)	FYR Macedonia eliminated the requirement for health and environmental approvals for construction projects and transferred the responsibility to obtain fire protection approvals from investors to municipal authorities.
Introduced risk-based approvals	Armenia; Paraguay	Armenia eliminated the requirement for environmental impact assessments for projects with a total area of up to 1,500 square meters.
Improved building control process	FYR Macedonia; Portugal	Portugal approved a new regulation by which construction oversight is performed by a licensed architect and municipal inspections are no longer required.
Improved electronic platforms or online services	Bosnia and Herzegovina	Bosnia and Herzegovina fully digitized its land registry and cadastre, reducing the time to obtain land ownership and zoning information from 84 days to 15.

Source: *Doing Business* database.

FIGURE 2 Sub-Saharan Africa had the most construction permitting reforms in 2010/11

Note: An economy can be considered to have only 1 *Doing Business* reform per topic and year. The data sample for DB2006 (2005) includes 174 economies. The sample for DB2012 (2011) also includes The Bahamas, Bahrain, Brunei Darussalam, Cyprus, Kosovo, Liberia, Luxembourg, Montenegro and Qatar, for a total of 183 economies.

Source: *Doing Business* database.

Overly complicated construction rules also can increase opportunities for corruption. Analysis of World Bank Enterprise Survey data shows that the share of firms expecting to give gifts in exchange for construction approvals is correlated with the level of

complexity and cost of dealing with construction permits.⁶

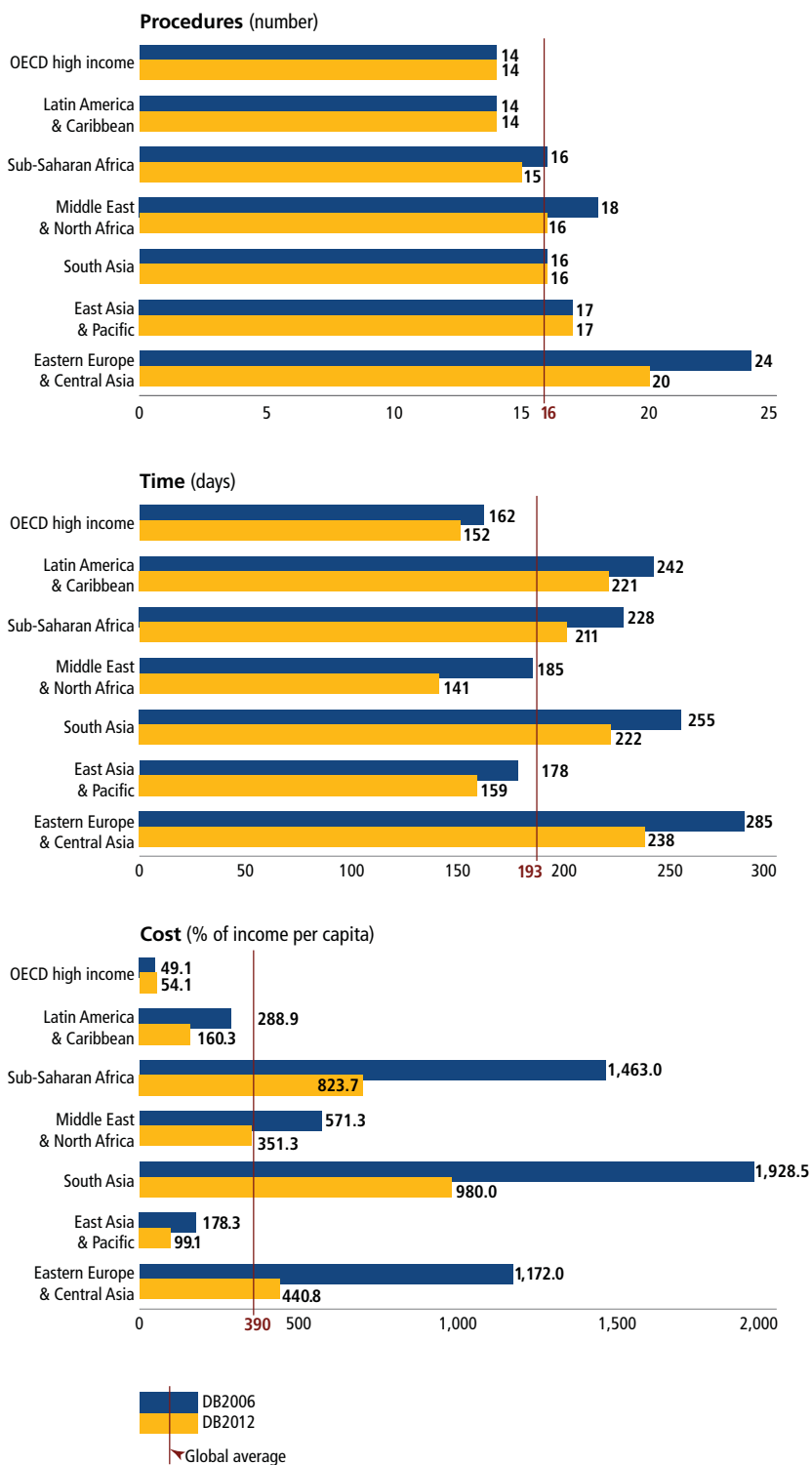
Revenue and competitiveness

Economies that score well on the ease of dealing with construction permits tend to have rigorous yet expeditious and transparent permitting processes. Speed matters. A study in the United States shows that accelerating permit approvals by 3 months in a 22-month project cycle could increase construction spending by 5.7% and property tax revenue by 16%.⁷

In a 2009 survey of 218 companies in 19 Asia-Pacific Economic Cooperation (APEC) member economies, respondents identified the time and procedures in construction permitting as the biggest "regulatory impediment" to doing business.⁸ For many entrepreneurs, construction regulations are a critical factor when deciding where to establish their businesses. A recent competitiveness report by KPMG indicated that construction costs and the permitting process were among the top 20 factors in determining the location of a start-up in the United States.⁹

FIGURE 3 Biggest time savings in Eastern Europe and Central Asia

Regional averages in dealing with construction permits



Note: The data sample for DB2006 (2005) includes 173 economies. The sample for DB2012 (2011) also includes The Bahamas, Bahrain, Brunei Darussalam, Cyprus, Kosovo, Liberia, Luxembourg, Montenegro and Qatar, for a total of 182 economies. Zimbabwe is excluded from the samples because of the impact of inflation on the average cost estimates. DB2006 data are adjusted for any data revisions and changes in methodology and regional classifications of economies.

Source: *Doing Business* database.

WHO REFORMED CONSTRUCTION PERMITTING—AND WHAT HAS WORKED?

In 2010/11, 15 economies made it easier to comply with the formalities required to build a warehouse up to the moment it can be occupied and used as collateral. Most streamlined permitting procedures (table 2).

In the past 7 years *Doing Business* recorded 125 reforms making it easier to deal with construction permits in 83 economies (figure 2). Many opted for low-cost administrative reforms requiring little or no change in regulation. Others went further, introducing or amending legislation. As a result, the average time to deal with construction formalities fell from 208 days to 193, and the average cost from 807% of income per capita to 390% (figure 3). These gains over the years illustrate what is possible when construction regulation moves toward global good practices—such as coherent and transparent rules and efficient processes that include the use of one-stop shops and risk-based building approvals.

Setting rules and ensuring that they are clear and coherent

Efficient building regulation starts with establishing a coherent body of rules that defines what is required from builders. Today 116 economies around the world—including 15 joining this group in the past 7 years—have a comprehensive set of building rules, in the form of either a national building code or a law that most fully governs the construction process (table 3). Ensuring clarity in these rules is important. When regulations lack clarity and may be subject to broad interpretation, there is a risk that builders and authorities will become confused about how to proceed. This can lead to unnecessary delays, disputes and uncertainty. The adverse effects of ambiguous building regulations can become especially apparent in urban settings as more and more people move to cities and the need for construction of new buildings grows. Since 2007, 50% of the world's population has been living in urban areas, generating more than 80% of global GDP.¹⁰ By 2050 the urban population share is expected to reach 70%.¹¹

Practice	Economies ^a	Examples
Having an organized set of building rules	116	Croatia; Kenya; New Zealand; Republic of Yemen
Using risk-based building approvals	86	Armenia; Germany; Mauritius; Singapore
Having a one-stop shop	26	Bahrain; Chile; Hong Kong SAR, China; Rwanda

a. Among 183 economies surveyed.
Source: *Doing Business* database.

One example of confusing regulation is the Solomon Islands. The country's national building code has been in preliminary draft form since April 1989. The parliament has not yet enacted the code into law because of differences on how to proceed. In the absence of clear rules, building inspectors can potentially impose additional technical requirements on builders. The ability to engage in such practices can create conditions for some inspectors to extort unofficial payments.

Yet having an approved building code does not guarantee uniform implementation. Local authorities may interpret the code differently. The Philippines has had a national building code since 1977, but rules vary substantially among cities. Taguig and Pasig are both part of the Metro Manila area, but their interpretation of which documents need to be notarized and which kinds of buildings need certain inspections is very different. As a result, according to a recent subnational *Doing Business* report, completing all construction permitting formalities takes 25 procedures and 85 days for an entrepreneur in Taguig but 36 procedures and 148 days for one in Pasig.¹²

Besides being clear, building rules also need to be adaptable so that they can keep up with economic and technological change—particularly important in the light of growing environmental concerns (box 1). New Zealand chose an effective approach: performance-focused building codes set targets and overall technical standards but do not regulate how to achieve those standards. This allows room for innovation in building techniques.

BOX 1 Improving energy efficiency through regulation of the construction industry

In developed economies the energy consumed in operating buildings accounts for about 20–40% of final energy consumption.¹ In Sub-Saharan Africa residential buildings alone are estimated to represent 56% of all energy consumption.² According to studies by the Intergovernmental Panel on Climate Change and McKinsey, the building sector could potentially mitigate climate change at a low cost.³

Many governments promote sustainable or green building standards in an attempt to use energy more efficiently, save costs and reduce environmental impacts. When introducing energy efficiency standards through regulation, most try to balance the need for improved standards that benefit society overall with the additional costs those new standards bring for builders and consumers.

Among the 183 economies covered by *Doing Business*, 51 have regulations applying to the construction sector that include energy efficiency standards. These regulations vary. In the European Union building companies must hire an accredited independent expert to issue a building energy rating for projects of a certain size.⁴ New Zealand and Singapore adopted energy efficiency guidelines, periodically reviewed by the government, that architects and engineers must follow in their projects.

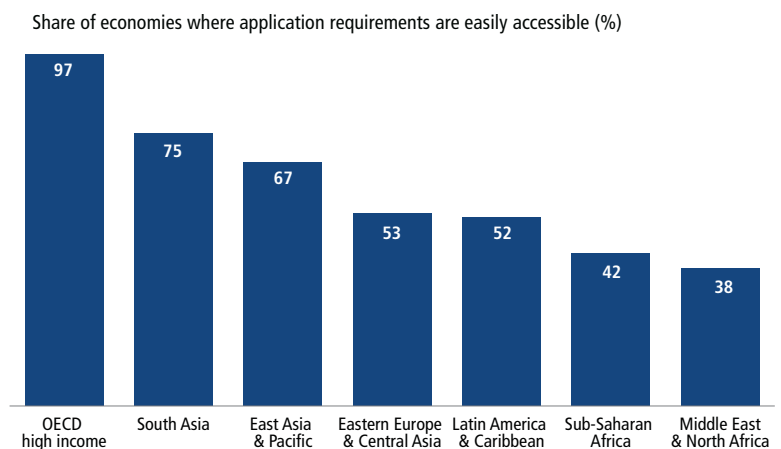
A growing number of developing countries—including Colombia, Indonesia and the Philippines—are creating legal frameworks that will include energy efficiency standards. Sub-Saharan Africa is at an early stage of developing such standards. The region has tremendous potential to integrate sustainable building practices into construction plans, including for slum upgrading and postconflict housing.⁵

1. OECD 2003.
2. McGraw Hill Construction 2008.
3. IPCC 2007; Enkvist, Nauclér and Rosander 2007.
4. EU Directive 2002/91/EC, articles 12 and 17.
5. Malanca 2010.

Overly precise provisions make it challenging to keep regulation up to date. Some building codes specify what materials can be used in construction. This seems to make sense. The materials are tested for safety, and their

technical parameters mandated in the code. But this approach works only when codes are regularly updated. And they rarely are in the transition economies of Eastern Europe and Central Asia, where such rules are most

FIGURE 4 Application requirements for building permits are easily accessible in most OECD high-income economies



Note: Application requirements for building permits are considered easily accessible if they can be obtained through the website of the building authority or another agency or through public notices, without a need for an appointment with an official. The data sample includes 159 economies.

Source: *Doing Business* database.

common. Construction norms in Ukraine still refer to specific materials that used to be produced in the former Soviet Union. Today these materials are no longer available, so no one can fully comply with the regulations. Flexible rules that are clear and coherent are fundamental to maintaining a safe and vibrant construction sector.

Allowing easy access to information

Easy access to information on documentation and fees required by building authorities can make compliance with regulations easier and reduce transactions costs for businesses. This year *Doing Business* collected additional data in 159 economies on the different ways in which building authorities and related agencies make such information accessible.

In the majority of the 159 economies covered, understanding which documents are needed to apply for a building permit and obtaining necessary forms requires a meeting with a public official. OECD high-income economies make it easier for businesses. In nearly all these economies information on what is needed to obtain a building

permit is available on the internet, in printed brochures or on posters displayed at the building authority or a related agency. In the Middle East and North Africa this is the case in around a third of the economies (figure 4).

In economies where entrepreneurs have access to such information online or through brochures, applications are processed more quickly and building permits granted in less time (figure 5). In these economies obtaining a building permit and necessary approvals takes 177 days on average. Where an appointment with an official is required, the process takes 199 days on average.

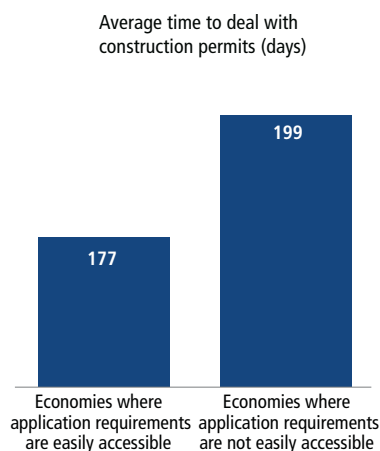
Policies promoting access to information cannot on their own increase the accountability of officials and actively counteract corrupt practices. But easier access to the information needed to comply with regulatory requirements is associated with lower transactions costs, lower levels of perceived corruption and stronger voice and accountability mechanisms (figure 6).

Using one-stop shops to improve coordination

Before a building plan is approved, appropriate clearances are needed to ensure quality and safety. Often several agencies are involved. To prevent overlap and ensure efficiency, many economies have opted to put the agencies in one location. These one-stop shops improve the organization of the review process—not by reducing the number of checks needed but by better coordinating the efforts of different agencies. That way more resources can be devoted to safety checks rather than to multiple interactions between the entrepreneur and the various agencies.

In 2010/11 Mauritania and Taiwan, China, introduced one-stop shops while Morocco made improvements to the one created in 2006. Yet today only 26 economies around the world have some kind of one-stop shop for construction permitting, including the 15 that established or enhanced one in the past 7 years. One successful example is in Hong Kong SAR, China. In 2009 the local

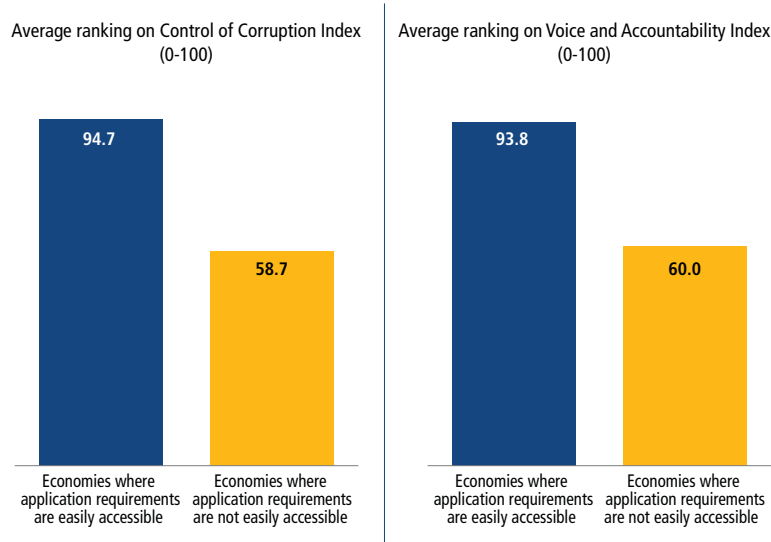
FIGURE 5 Easier access to application requirements for building permits is associated with faster approval processes



Note: Relationship is significant at the 5% level after controlling for income per capita. Application requirements for building permits are considered easily accessible if they can be obtained through the website of the building authority or another agency or through public notices, without a need for an appointment with an official. The data sample includes 159 economies.

Source: *Doing Business* database.

FIGURE 6 Easier access to application requirements for building permits is associated with lower perceived corruption and greater voice and accountability



Note: Relationships are significant at the 5% level after controlling for income per capita. Higher values indicate better rankings on the indices. Application requirements for building permits are considered easily accessible if they can be obtained through the website of the building authority or another agency or through public notices, without a need for an appointment with an official. The data sample includes 159 economies.

Source: *Doing Business* database; World Bank, Worldwide Governance Indicators (2009 data).

TABLE 4 Who makes dealing with construction permits easy—and who does not?

Procedures (number)			
Fewest		Most	
Denmark	5	Azerbaijan	30
Hong Kong SAR, China	6	Philippines	30
New Zealand	6	Poland	30
St. Lucia	7	Brunei Darussalam	31
Sweden	7	Kazakhstan	32
Belize	8	China	33
Colombia	8	Czech Republic	33
Grenada	8	El Salvador	33
Marshall Islands	8	India	34
St. Vincent and the Grenadines	8	Russian Federation	51

Time (days)			
Fastest		Slowest	
Singapore	26	Venezuela, RB	381
United States	26	Russian Federation	423
Korea, Rep.	30	Suriname	461
Vanuatu	39	Brazil	469
Bahrain	43	Lesotho	510
Colombia	46	Côte d'Ivoire	583
United Arab Emirates	46	Zimbabwe	614
Solomon Islands	58	Cambodia	652
New Zealand	64	Cyprus	677
Finland	66	Haiti	1,129

Cost (% of income per capita)			
Least		Most	
Qatar	1.1	Serbia	1,604
Greece	3.4	India	1,631
Brunei Darussalam	4.2	Congo, Dem. Rep.	1,671
Palau	5.2	Zambia	2,015
United Arab Emirates	5.2	Niger	2,215
Hungary	5.8	Djibouti	2,286
Trinidad and Tobago	6.0	Burundi	4,066
St. Kitts and Nevis	6.8	Afghanistan	4,876
Malaysia	7.1	Chad	5,757
Slovak Republic	7.2	Zimbabwe	6,154

Source: Doing Business database.

government, as part of its “Be the Smart Regulator” program, merged 8 procedures involving 6 different agencies and 2 private utilities through a one-stop center. A single window facilitates interactions for customers—and today only 6 procedures are needed to deal with construction permits (table 4).

In other economies too, more efficient procedures allowed agencies to process greater volumes of permit approvals and increased client satisfaction. In 2006 Burkina Faso was among the 10 economies with the most complex requirements in the world. Not surprisingly, a survey that year found that more than 23% of local companies identified licenses and permits generally as a major constraint to doing business in the economy.¹³ To help address this concern, Burkina Faso opened a one-stop shop for construction permits, the Centre de Facilitation des Actes de Construire, in May 2008. A new regulation merged 32 procedures into 15, reduced the time required from 226 days to 122 and cut the cost by 40%.

Differentiating projects by risk

Not all building projects are associated with the same social, cultural, economic or environmental risks. The construction of a hospital or skyscraper cannot be compared with the construction of a 2-story commercial warehouse. Efficient governments have implemented rigorous yet differentiated construction permitting processes to treat buildings according to their risk level and location.

Simple or low-risk buildings require less documentation than more complex structures and can be approved faster. This saves time for both entrepreneurs and authorities and allows them to direct their efforts and resources more efficiently. Worldwide, the main criteria used to classify a construction project by its potential risk are based on the building's use, location and size. Today 86 economies have a risk-differentiated approach, including the 13 that established one in the past 7 years.

Armenia and Paraguay introduced risk-based systems in 2010/11. Authorities in Yerevan raised the size threshold for buildings that require environmental impact

assessments to 1,500 square meters. This change led to time savings of 30 days for builders with projects below that threshold. The municipality of Asunción introduced different review systems for buildings that depend on their size and use. Those of 1,500 square meters or less that will be used for simple commercial activities are now classified as “simple structures” and can undergo an expedited review process.

The German state of Bavaria introduced a differentiated permitting approach in 1994. For low-risk projects the designing architects must show proof of their qualifications and assume liability for the construction. For medium-risk projects an independent, certified appraiser must approve the plans. Only high-risk, complex projects are fully reviewed by building authorities.¹⁴ By 2002 builders had saved an estimated €154 million in building permit fees that would have been paid to the government under the pre-1994 rules, and building authorities had 270 fewer employees on their payroll. The approach has spread to the rest of Germany.

The Canadian city of Toronto revamped its construction permitting process in 2005 by introducing time limits for different stages of the process and presenting a unique basic list of requirements for each project. Later it provided for electronic information and risk-based approvals with fast-track procedures (“Commercial Xpress” for commercial buildings and “Residential Fast Track” for residential buildings).

The Republic of Korea introduced risk-based approvals in 2005/06. In May 2006 small construction projects were allowed to choose a fast-track option. This allowed regulators to focus their time and resources on more complex projects. The reform was timely because it coincided with higher demand for construction: between 2004 and 2009 the number of applications for commercial building permits in Seoul increased from 1,521 to 3,895.¹⁵

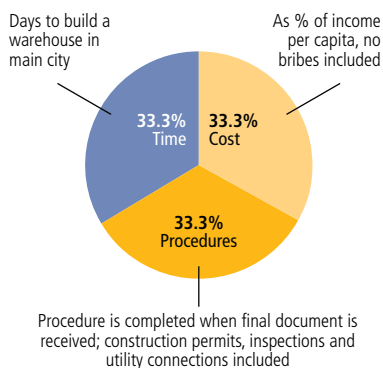
DATA NOTES ON DEALING WITH CONSTRUCTION PERMITS

Doing Business records all procedures required for a business in the construction industry to build a standardized warehouse. These procedures include submitting all relevant project-specific documents (for example, building plans and site maps) to the authorities; obtaining all necessary clearances, licenses, permits and certificates; completing all required notifications; and receiving all necessary inspections. *Doing Business* also records procedures for obtaining connections for water, sewerage and a fixed telephone line.¹⁶ Procedures necessary to register the property so that it can be used as collateral or transferred to another entity are also counted. The survey divides the process of building a warehouse into distinct procedures and calculates the time and cost of completing each procedure. The ranking on the ease of dealing with construction permits is the simple average of the percentile rankings on its component indicators (figure A.1).

Information is collected from experts in construction licensing, including architects, construction lawyers, construction firms, utility service providers and public officials who deal with building regulations, including approvals and inspections. To make the data comparable across economies, several assumptions about the business, the warehouse project and the utility connections are used.

FIGURE A.1 Dealing with construction permits: building a warehouse

Rankings are based on 3 indicators



Assumptions about the construction company

The business (BuildCo):

- Is a limited liability company.
- Operates in the economy's largest business city.
- Is 100% domestically and privately owned.
- Has 5 owners, none of whom is a legal entity.
- Is fully licensed and insured to carry out construction projects, such as building warehouses.
- Has 60 builders and other employees, all of them nationals with the technical expertise and professional experience necessary to obtain construction permits and approvals.
- Has at least 1 employee who is a licensed architect and registered with the local association of architects.
- Has paid all taxes and taken out all necessary insurance applicable to its general business activity (for example, accidental insurance for construction workers and third-person liability).
- Owns the land on which the warehouse is built.

Assumptions about the warehouse

The warehouse:

- Will be used for general storage activities, such as storage of books or stationery. The warehouse will not be used for any goods requiring special conditions, such as food, chemicals or pharmaceuticals.
- Has 2 stories, both above ground, with a total surface of approximately 1,300.6 square meters (14,000 square feet). Each floor is 3 meters (9 feet, 10 inches) high.
- Has road access and is located in the periurban area of the economy's largest business city (that is, on the fringes of the city but still within its official limits).
- Is not located in a special economic or industrial zone. The zoning requirements for warehouses are met by building in an area where similar warehouses can be found.
- Is located on a land plot of 929 square meters (10,000 square feet) that is 100%

owned by BuildCo and is accurately registered in the cadastre and land registry.

- Is a new construction (there was no previous construction on the land).
- Has complete architectural and technical plans prepared by a licensed architect.
- Will include all technical equipment required to make the warehouse fully operational.
- Will take 30 weeks to construct (excluding all delays due to administrative and regulatory requirements).

Assumptions about the utility connections

The water and sewerage connection:

- Is 10 meters (32 feet, 10 inches) from the existing water source and sewer tap.
- Does not require water for fire protection reasons; a fire extinguishing system (dry system) will be used instead. If a wet fire protection system is required by law, it is assumed that the water demand specified below also covers the water needed for fire protection.
- Has an average water use of 662 liters (175 gallons) a day and an average wastewater flow of 568 liters (150 gallons) a day.
- Has a peak water use of 1,325 liters (350 gallons) a day and a peak wastewater flow of 1,136 liters (300 gallons) a day.
- Will have a constant level of water demand and wastewater flow throughout the year.

The telephone connection:

- Is 10 meters (32 feet, 10 inches) from the main telephone network.
- Is a fixed telephone line.

Procedures

A procedure is any interaction of the company's employees or managers with external parties, including government agencies, notaries, the land registry, the cadastre, utility companies, public and private inspectors and technical experts apart from in-house architects and engineers. Interactions between company employees, such as development of the warehouse plans and inspections conducted by employees, are

TABLE A.1 What do the dealing with construction permits indicators measure?	
Procedures to legally build a warehouse (number)	
Submitting all relevant documents and obtaining all necessary clearances, licenses, permits and certificates	
Completing all required notifications and receiving all necessary inspections	
Obtaining utility connections for water, sewerage and a fixed telephone line	
Registering the warehouse after its completion (if required for use as collateral or for transfer of the warehouse)	
Time required to complete each procedure (calendar days)	
Does not include time spent gathering information	
Each procedure starts on a separate day	
Procedure completed once final document is received	
No prior contact with officials	
Cost required to complete each procedure (% of income per capita)	
Official costs only, no bribes	

not counted as procedures. Procedures that the company undergoes to connect to water, sewerage and telephone services are

included. All procedures that are legally or in practice required for building a warehouse are counted, even if they may be avoided in exceptional cases (table A.1).

Time

Time is recorded in calendar days. The measure captures the median duration that local experts indicate is necessary to complete a procedure in practice. It is assumed that the minimum time required for each procedure is 1 day. Although procedures may take place simultaneously, they cannot start on the same day (that is, simultaneous procedures start on consecutive days). If a procedure can be accelerated legally for an additional cost, the fastest procedure is chosen. It is assumed that BuildCo does not waste time and commits to completing each remaining procedure without delay. The time that BuildCo spends on gathering information is ignored. It is assumed that BuildCo is aware of all building requirements and their sequence from the beginning.

Cost

Cost is recorded as a percentage of the economy's income per capita. Only official costs are recorded. All the fees associated with completing the procedures to legally build a warehouse are recorded, including those associated with obtaining land use approvals and preconstruction design clearances; receiving inspections before, during and after construction; getting utility connections; and registering the warehouse property. Nonrecurring taxes required for the completion of the warehouse project are also recorded. The building code, information from local experts and specific regulations and fee schedules are used as sources for costs. If several local partners provide different estimates, the median reported value is used.

The data details on dealing with construction permits can be found for each economy at <http://www.doingbusiness.org> by selecting the economy in the drop-down list.

NOTES

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- PricewaterhouseCoopers 2005.
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- McKinsey Global Institute 2011.
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- Bayerisches Staatsministerium des Innern 2002.
- Information provided by the Seoul Metropolitan Government.
- Because the ease of doing business index now includes the getting electricity indicators, procedures, time and cost related to obtaining an electricity connection were removed from the dealing with construction permits indicators.

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