

# Diagnóstico de la Encuesta de Empresas – Banco Mundial

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# Introducción

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## The Bolivia 2017 Enterprise Surveys Data Set

**Objective of the Enterprise Survey:** Gain an understanding of what firms experience in the private sector.

**The Enterprise Surveys (ES)** are an World Bank project in collecting objective data based on firms' experiences and enterprises' perception of the environment in which they operate.

**Sampling Structure:** The sample for 2017 was selected using stratified random sampling (industry, establishment size, and region).

**Size stratification was defined as follows:** small (5 to 19 employees), medium (20 to 99 employees), and large (100 or more employees).

**Regional stratification was done across three regions:** La Paz, Santa Cruz, and Cochabamba.

**The whole population, or universe of the study, is the non-agricultural economy:** It comprises: all manufacturing sectors according to the group classification of ISIC, construction sector, services sector, and transport, storage, and communications sector.

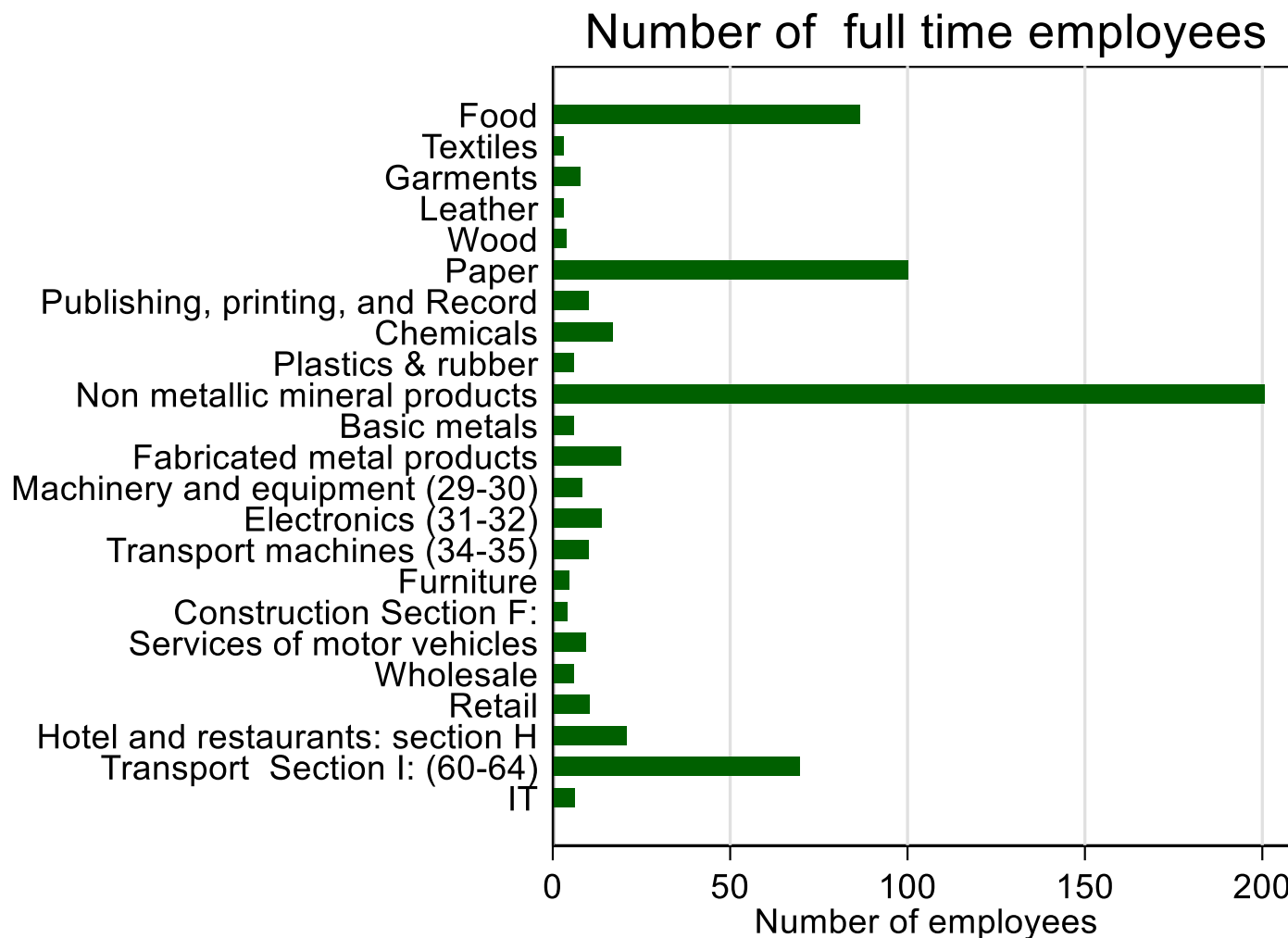
Excludes the following sectors: financial intermediation, real estate and renting activities, except sub-sector, IT, and all public or utilities-sectors.

# Muestra

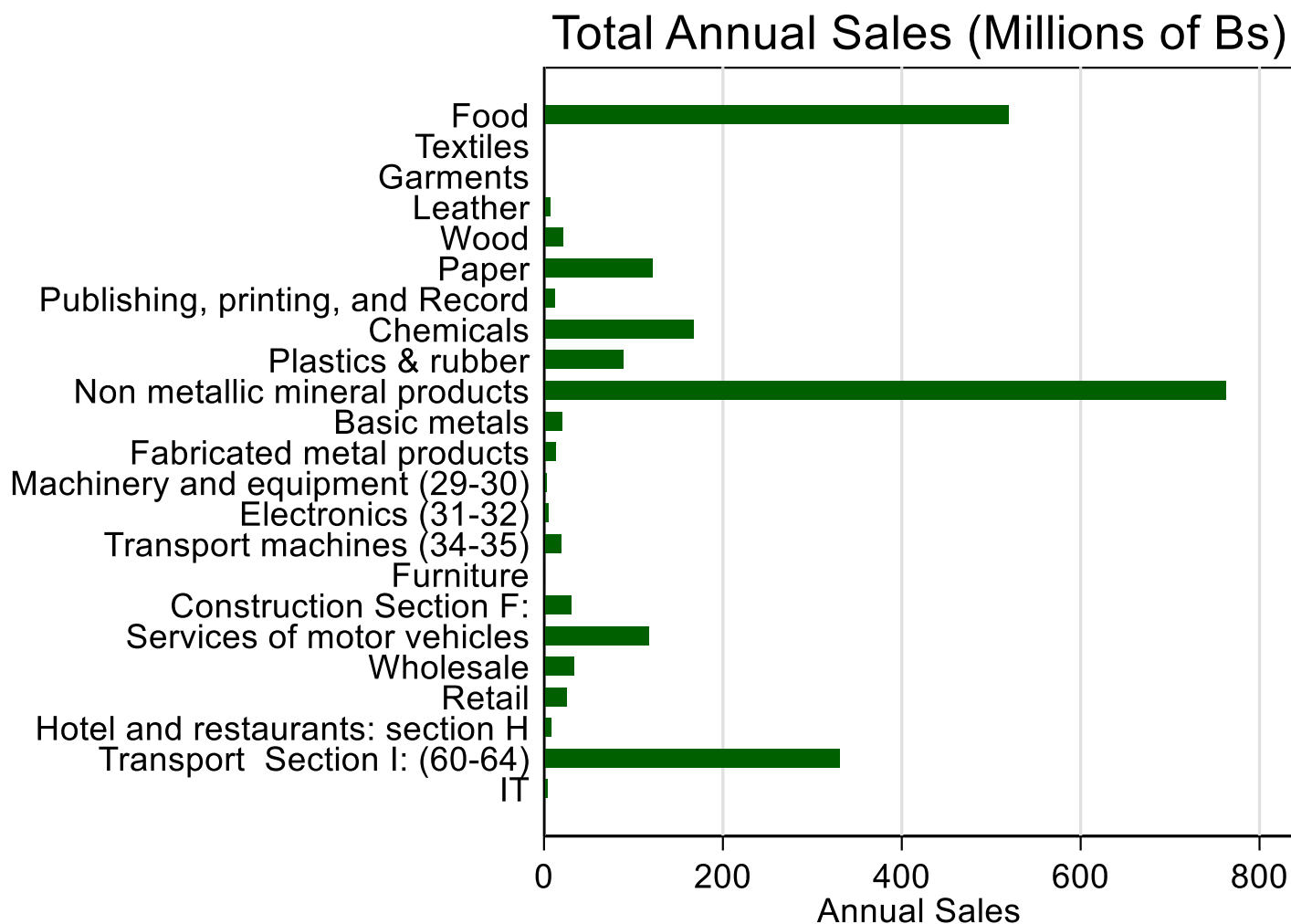
| Region            | Small | Medium | Large | Total |
|-------------------|-------|--------|-------|-------|
| <b>La Paz</b>     | 57    | 36     | 29    | 122   |
| %                 | 46.72 | 29.51  | 23.77 | 100   |
| <b>Santa Cruz</b> | 46    | 42     | 33    | 121   |
| %                 | 38.02 | 34.71  | 27.27 | 100   |
| <b>Cochabamba</b> | 50    | 56     | 15    | 121   |
| %                 | 41.32 | 46.28  | 12.4  | 100   |
| <b>Total</b>      | 153   | 134    | 77    | 364   |
| %                 | 42.03 | 36.81  | 21.15 | 100   |

| Region            | Manufacturing | Retail | Other Services | Total |
|-------------------|---------------|--------|----------------|-------|
| <b>La Paz</b>     | 37            | 37     | 48             | 122   |
| %                 | 30.33         | 30.33  | 39.34          | 100   |
| <b>Santa Cruz</b> | 42            | 35     | 44             | 121   |
| %                 | 34.71         | 28.93  | 36.36          | 100   |
| <b>Cochabamba</b> | 42            | 48     | 31             | 121   |
| %                 | 34.71         | 39.67  | 25.62          | 100   |
| <b>Total</b>      | 121           | 120    | 123            | 364   |
| %                 | 33.24         | 32.97  | 33.79          | 100   |

# Análisis descriptivo por industria

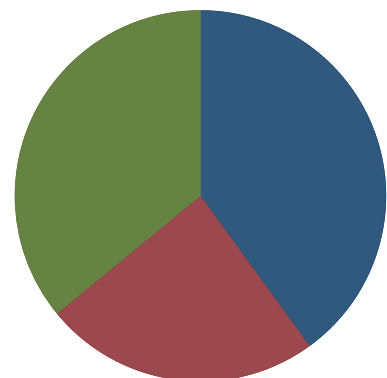


# Análisis descriptivo por industria



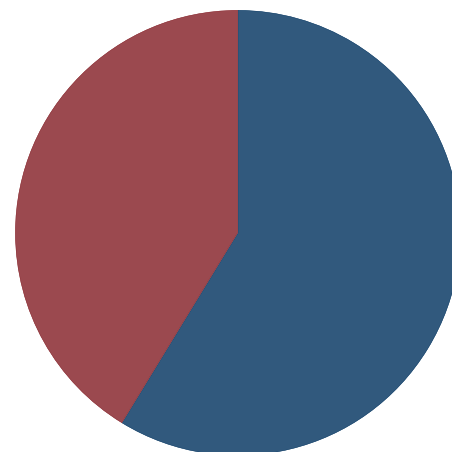
# Cambios en el precio

The price for main good or service change?



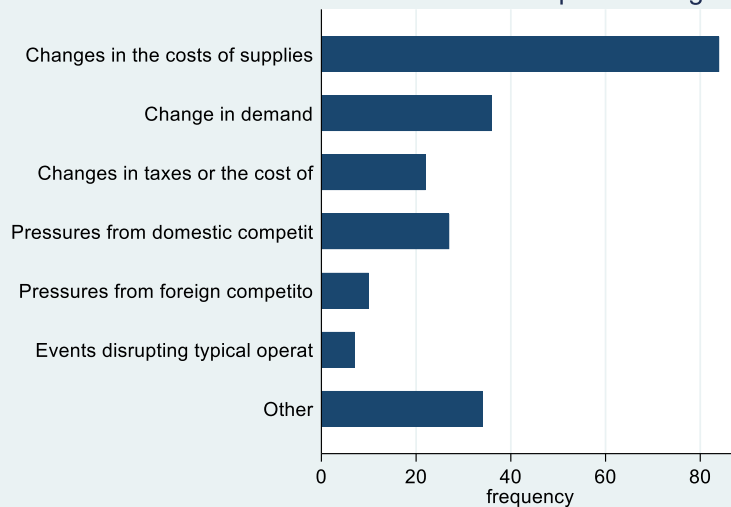
Legend: Increase (blue), Stay the same (green), Decrease (red)

Material inputs and supplies imported directly



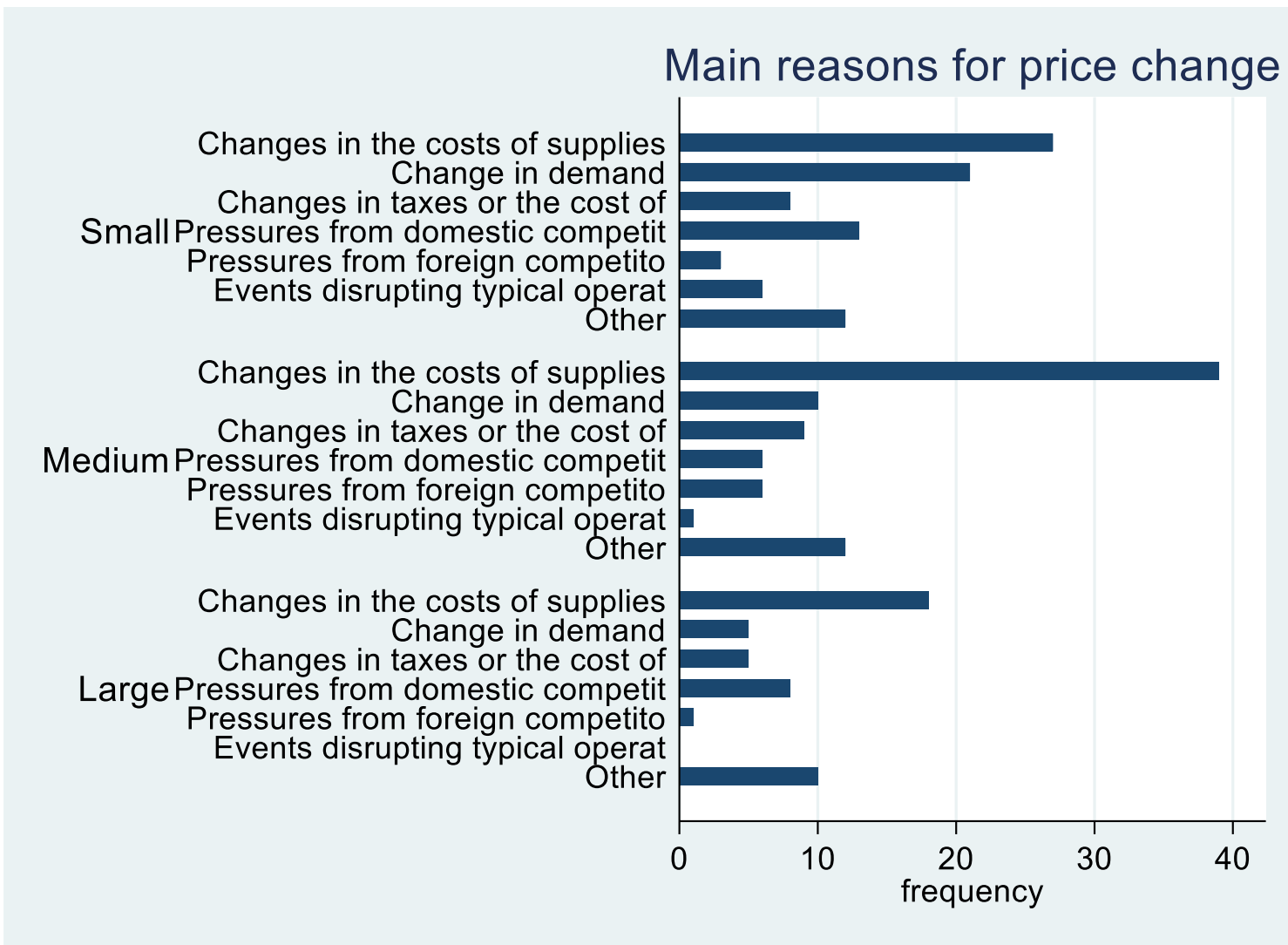
Legend: Yes (blue), No (red)

Main reasons for price change



| Imported | Small | Medium | Large | Total |
|----------|-------|--------|-------|-------|
| Yes      | 39    | 76     | 50    | 165   |
| %        | 33.05 | 74.51  | 81.97 | 58.72 |
| No       | 79    | 26     | 11    | 116   |
| %        | 66.95 | 25.49  | 18.03 | 41.28 |
| Total    | 118   | 102    | 61    | 281   |
| %        | 100   | 100    | 100   | 100   |

# Cambios en el precio

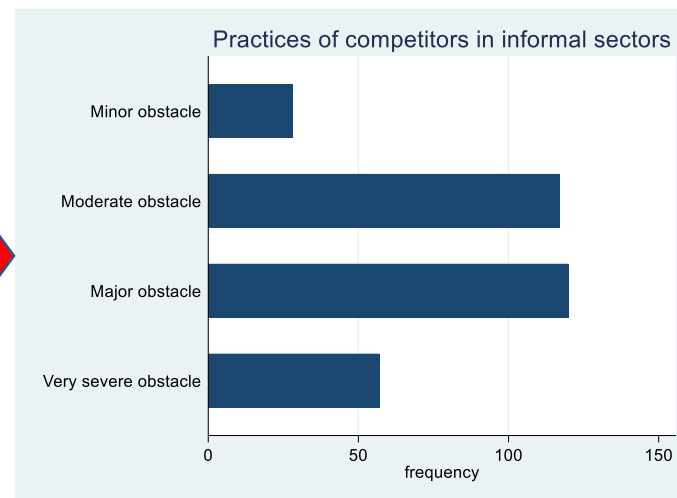
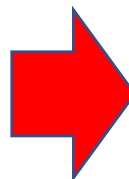
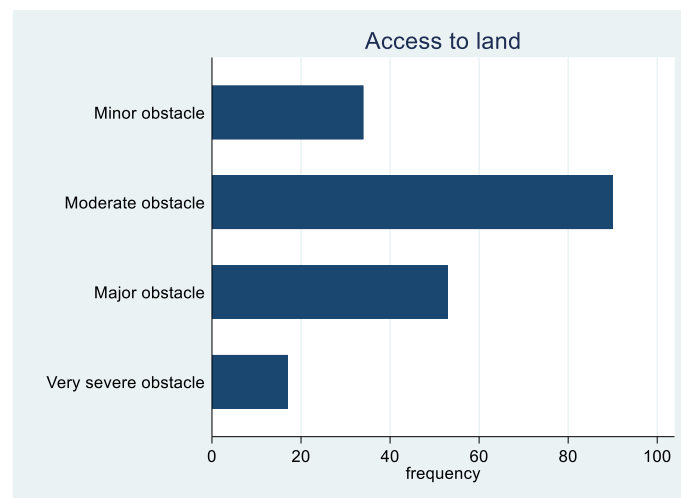
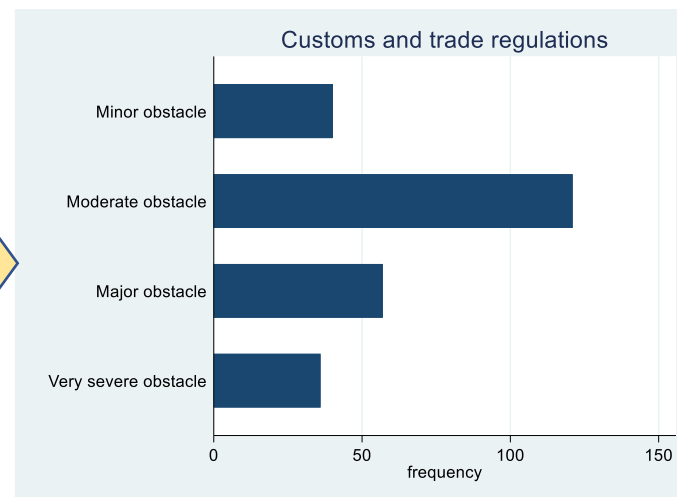
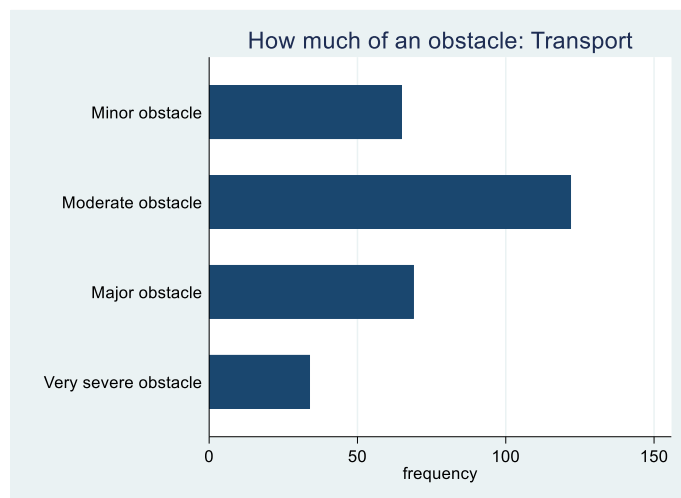


# Destino de las ventas

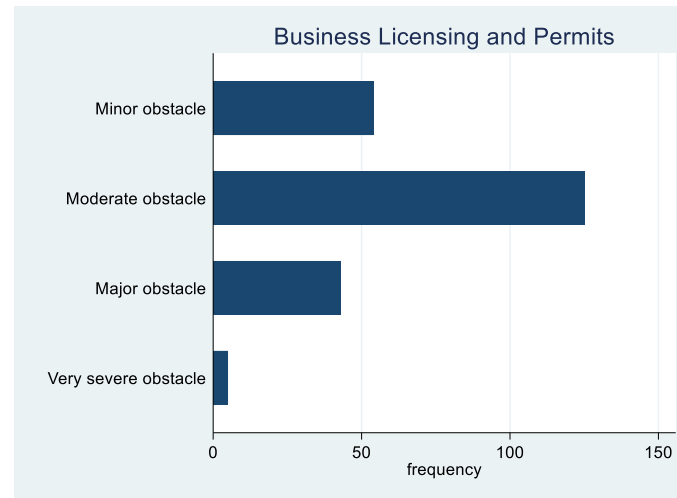
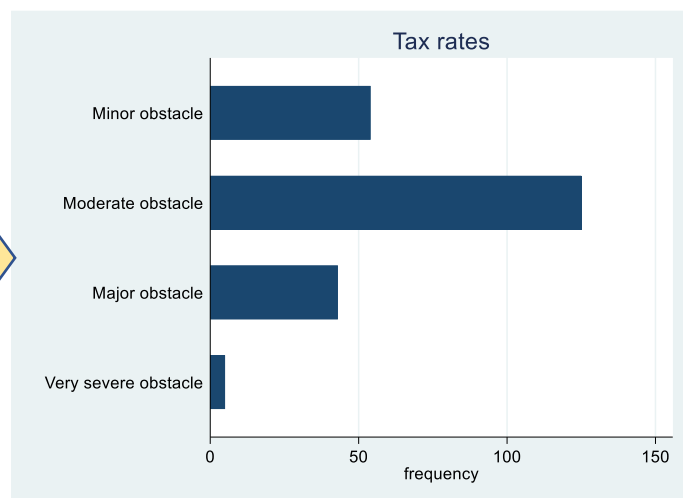
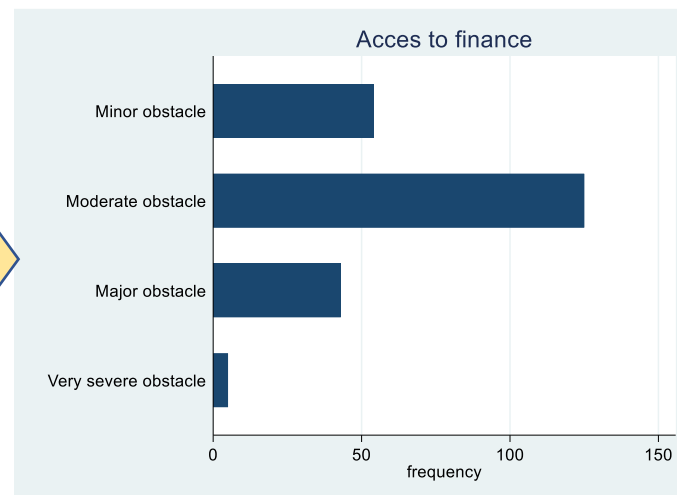
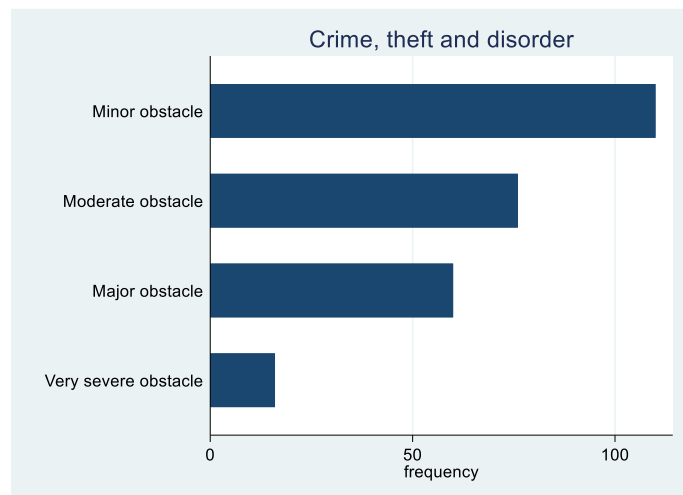
| Industry                                 | % of Sales     |                  |                |
|--|----------------|------------------|----------------|
|  | National Sales | Indirect Exports | Direct Exports |
| Food                                     | 79.78          | 0.07             | 20.15          |
| Tobacco                                  | 100.00         | -                | -              |
| Textiles                                 | 93.33          | 6.67             | -              |
| Garments (Clothes)                       | 87.22          | 12.78            | -              |
| Leather                                  | 66.33          | 10.33            | 23.33          |
| Wood                                     | 78.20          | 2.00             | 19.80          |
| Paper                                    | 92.67          | 6.67             | 0.67           |
| Publishing, printing, and Recorded media | 95.00          | 5.00             | -              |
| Chemicals                                | 98.91          | -                | 1.09           |
| Plastics & rubber                        | 99.71          | -                | 0.29           |
| Non metallic mineral products            | 98.13          | -                | 1.88           |
| Basic metals                             | -              | -                | 100.00         |
| Fabricated metal products                | 99.86          | 0.14             | -              |
| Machinery and equipment (29-30)          | 100.00         | -                | -              |
| Electronics (31-32)                      | 73.33          | -                | 26.67          |
| Transport machines (34-35)               | 100.00         | -                | -              |
| Furniture                                | 100.00         | -                | -              |
| Construction Section F:                  | 98.82          | 1.18             | -              |
| Services of motor vehicles               | 100.00         | -                | -              |
| Wholesale                                | 95.67          | 2.37             | 1.96           |
| Retail                                   | 100.00         | -                | -              |
| Hotel and restaurants: section H         | 91.00          | 4.25             | 4.75           |
| Transport Section I: (60-64)             | 75.03          | 1.87             | 18.87          |
| IT (Information technology)              | 88.89          | -                | 11.11          |
| Total                                    | 93.22          | 1.53             | 4.90           |



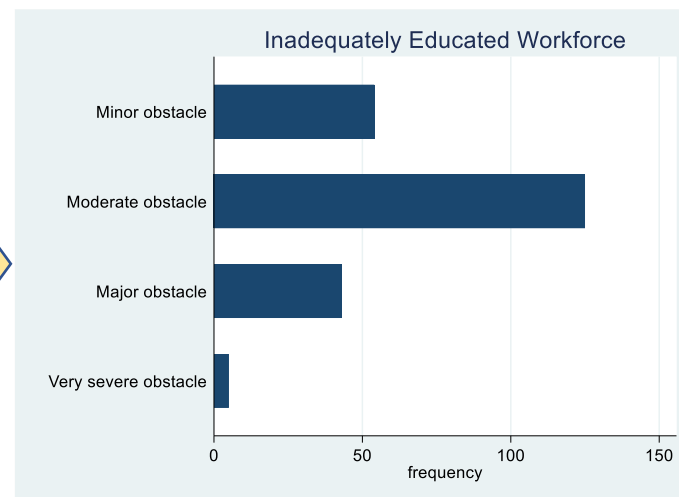
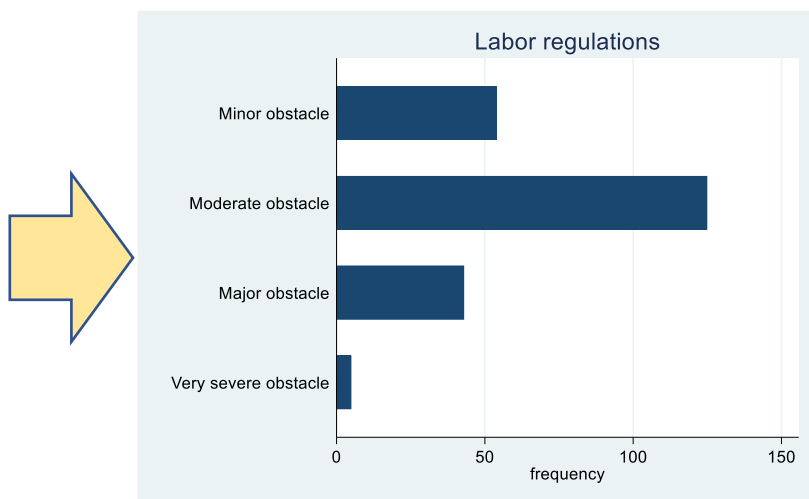
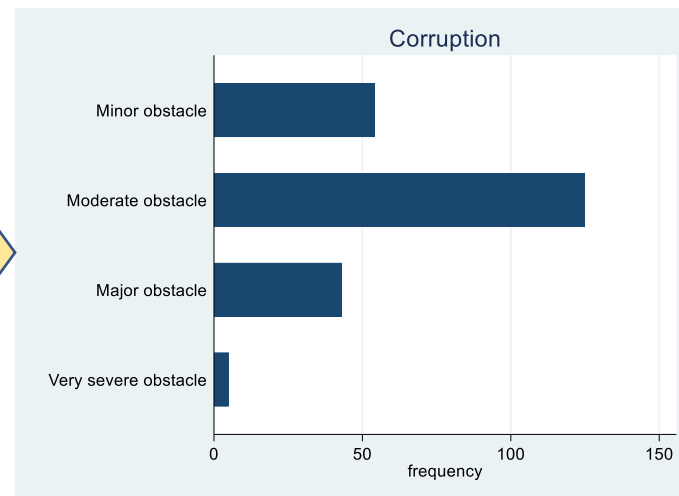
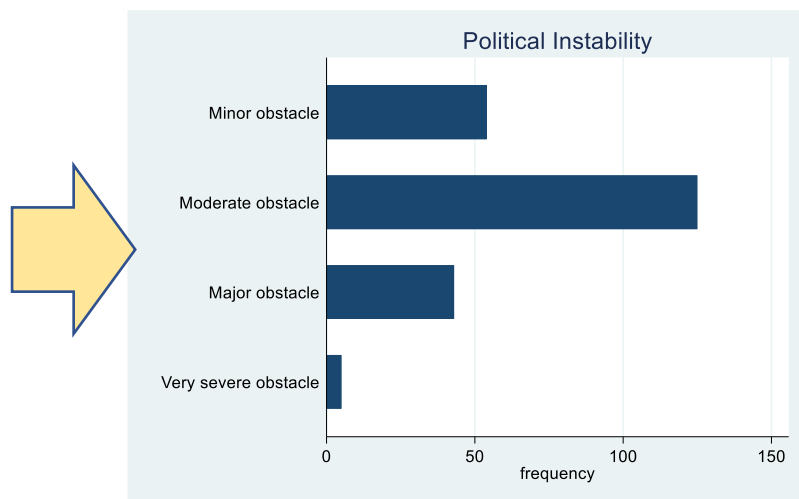
# Principales obstáculos que enfrentan las firmas



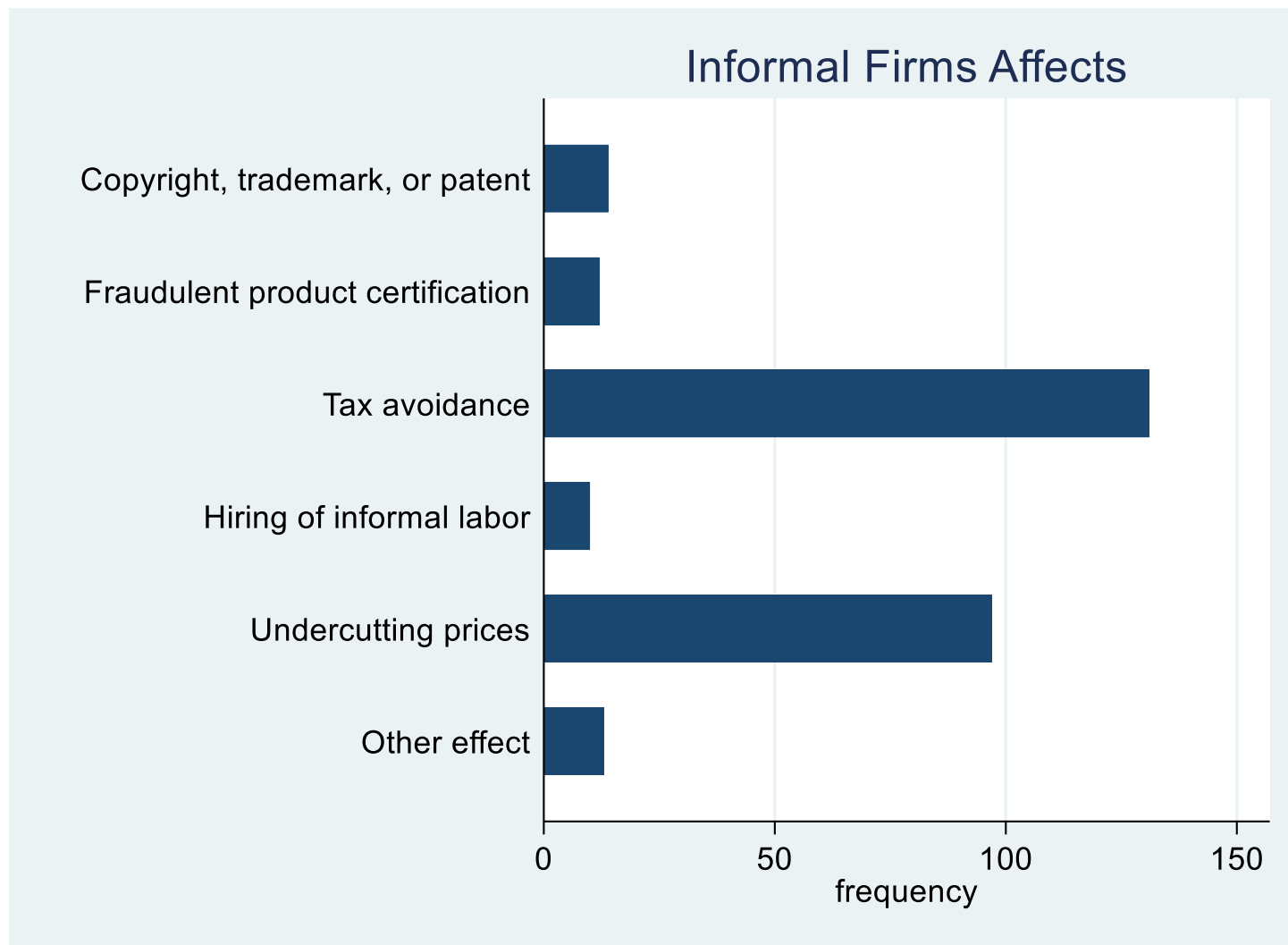
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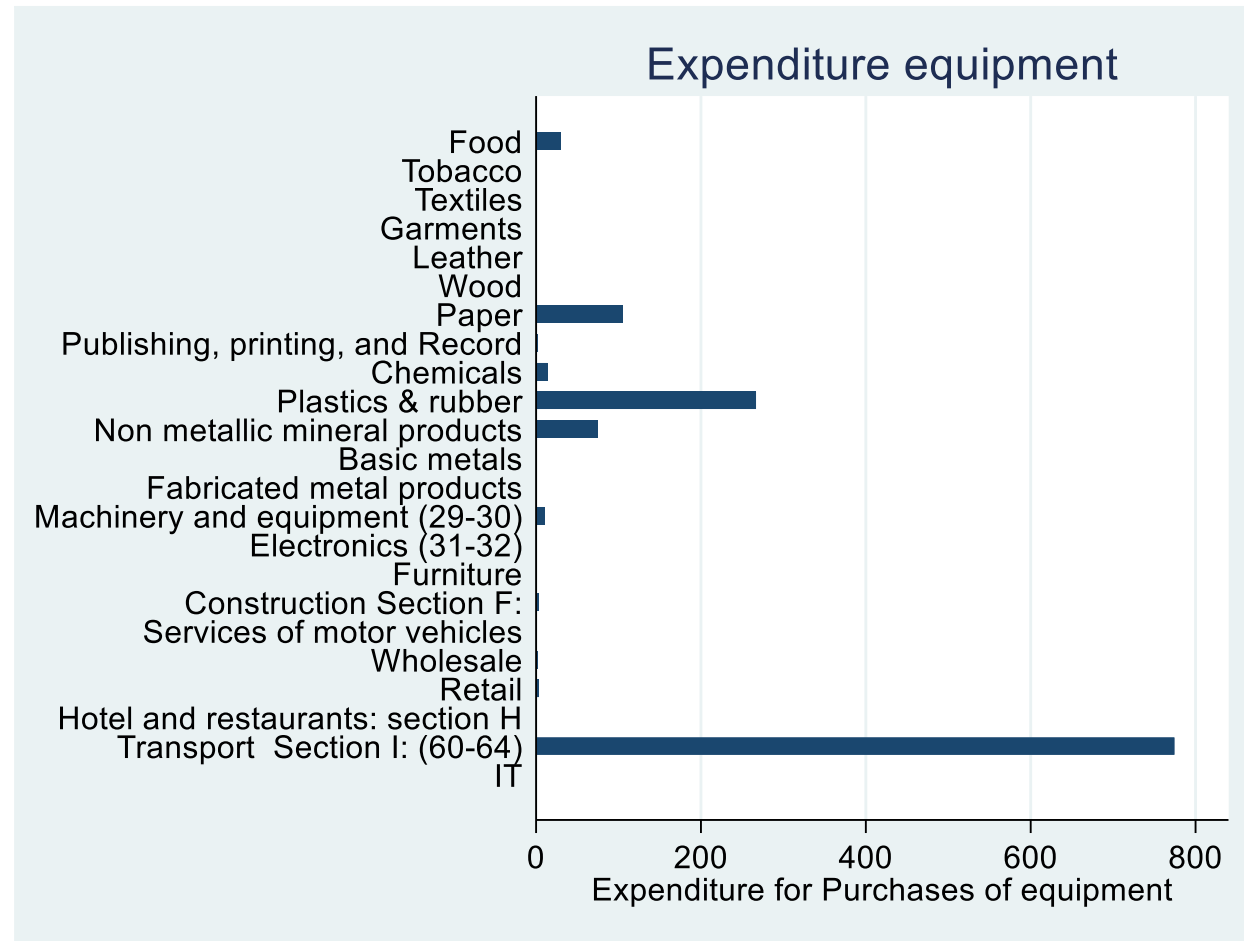


# ¿Qué prácticas de las empresas informales afectan más a este establecimiento?

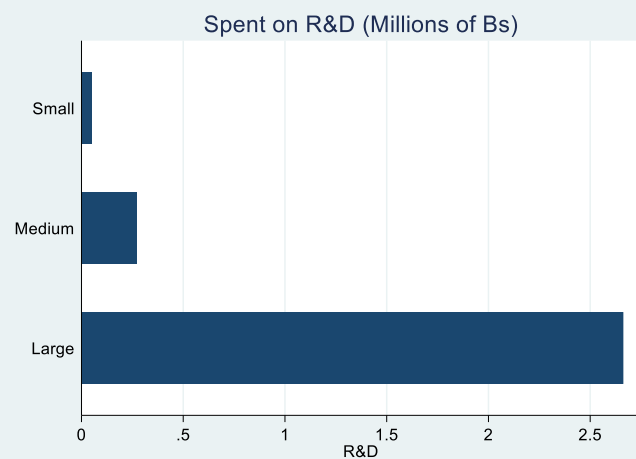
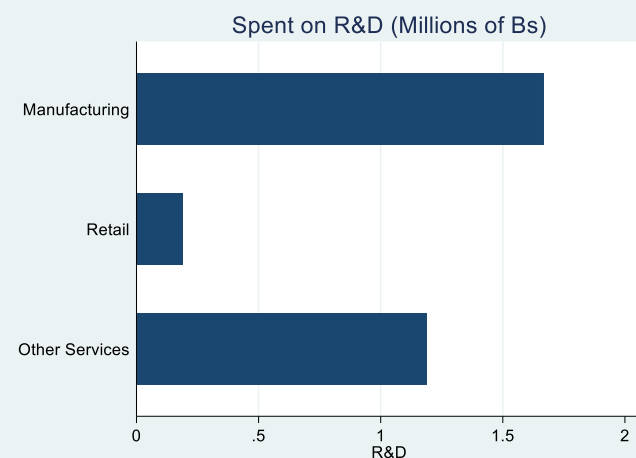
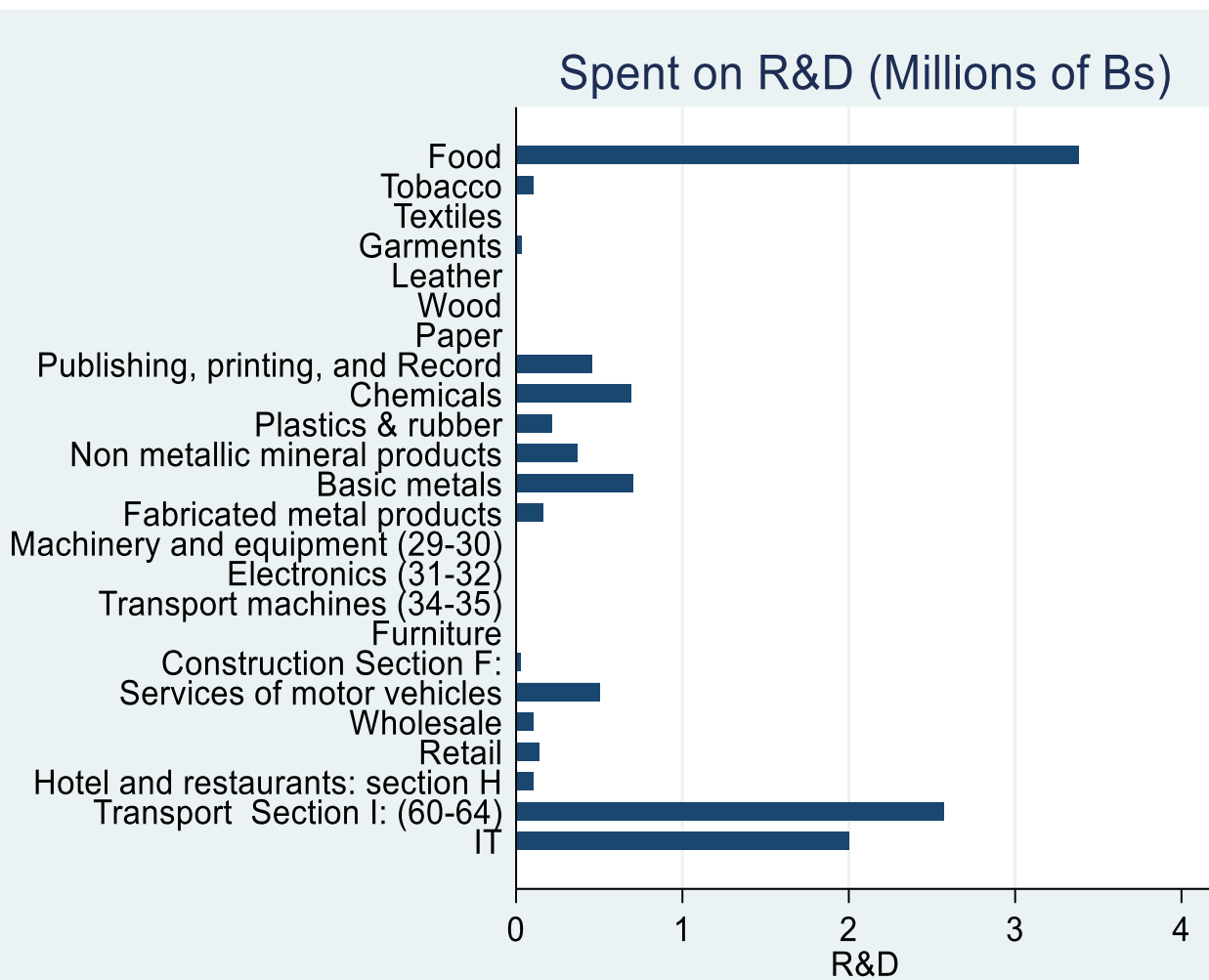


# ¿Este establecimiento compró activos fijos el año pasado?

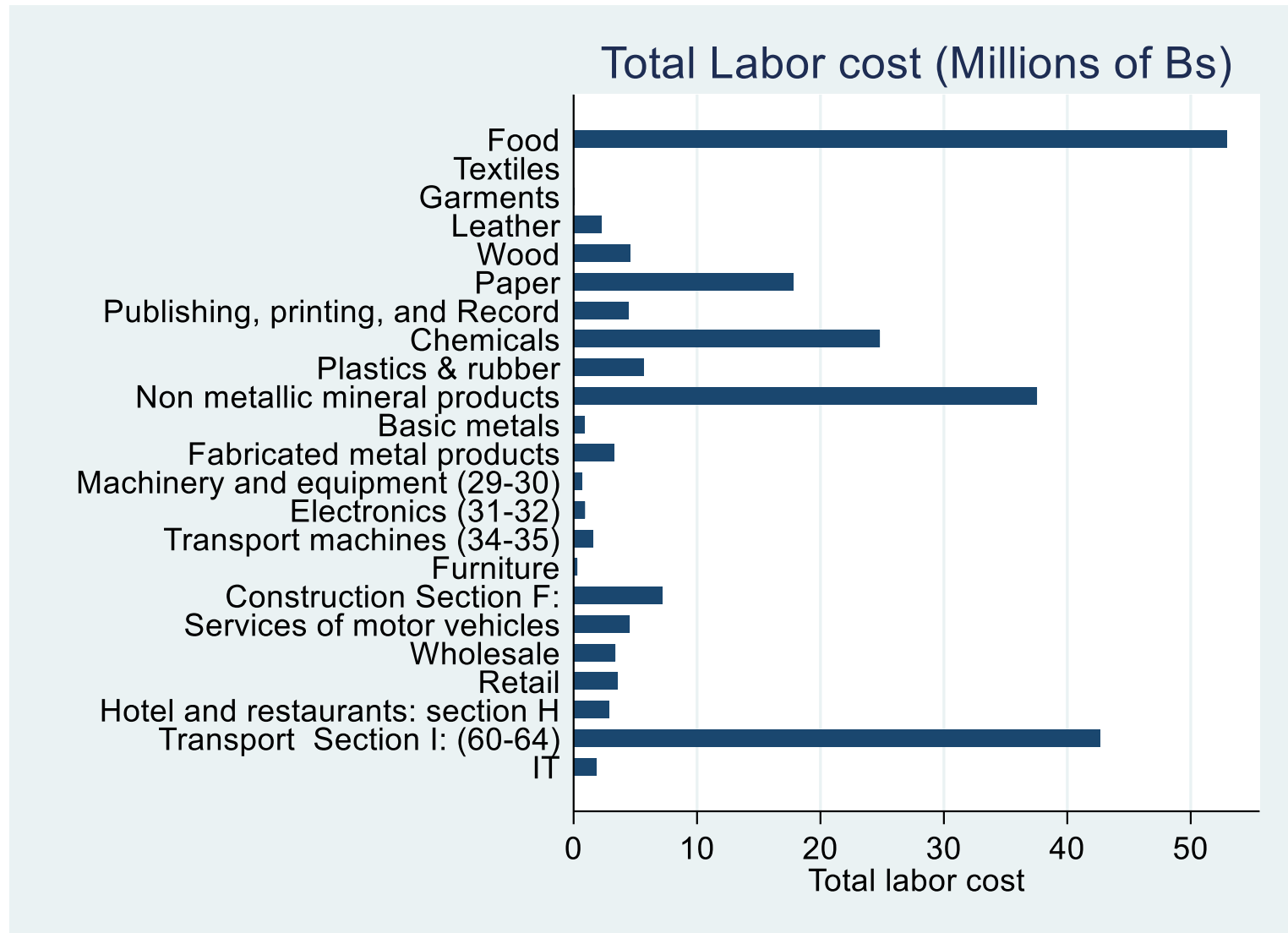
| Purchase Any Fixed Assets In Last Fiscal |     |     |
|--|-----|-----|
| Industry                                 | Yes | No  |
| Food                                     | 19  | 8   |
| Tobacco                                  | 1   | 0   |
| Textiles                                 | 0   | 3   |
| Garments (Clothes)                       | 4   | 5   |
| Leather                                  | 1   | 2   |
| Wood                                     | 1   | 4   |
| Paper                                    | 2   | 1   |
| Publishing, printing, Rec. media         | 10  | 5   |
| Chemicals                                | 9   | 2   |
| Plastics & rubber                        | 4   | 3   |
| Non metallic mineral products            | 7   | 1   |
| Basic metals                             | 1   | 0   |
| Fabricated metal products                | 10  | 4   |
| Machinery and equipment                  | 3   | 2   |
| Electronics                              | 2   | 1   |
| Transport machines                       | 1   | 0   |
| Furniture                                | 1   | 1   |
| Construction Section F:                  | 13  | 4   |
| Services of motor vehicles               | 13  | 18  |
| Wholesale                                | 33  | 17  |
| Retail                                   | 35  | 53  |
| Hotel and restaurants: section H         | 15  | 5   |
| Transport Section I: (60-64)             | 22  | 8   |
| IT (Information technology)              | 1   | 8   |
| Total                                    | 208 | 155 |



# ¿El establecimiento gastó en investigación y desarrollo (excluida la investigación de mercado)?



# Costo laboral total (incluye sueldos, salarios, bonos)



# Comentarios

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- Sólo algunas industrias en promedio absorben gran cantidad de mano de obra y generan ventas.
- Unos de los factores que generan cambios en los precios es debido a cambios en los costos de suministros, que en promedio representa el 59% son insumos y materiales importados.
- El destino de las ventas en su mayoría se comercializa en el mercado nacional (93%) y aproximadamente el 7% se exporta.
- En cuanto a las prácticas de empresas informales que afectan a la firma resaltan la evasión de impuestos y el diferencial de precios.



# Matriz de transición: tamaño de la firma 2006, 2010 y 2017

| Year of survey | Freq. | Percent | Cum.   |
|----------------|-------|---------|--------|
| 2006           | 613   | 45.78   | 45.78  |
| 2010           | 362   | 27.04   | 72.82  |
| 2017           | 364   | 27.18   | 100.00 |
| Total          | 1,339 | 100.00  |        |



| Panel: Firm interviewed in these years |       |         |        |
|--|-------|---------|--------|
| Year                                   | Freq. | Percent | Cum.   |
| 2006 only                              | 433   | 32.34   | 32.34  |
| 2010 only                              | 97    | 7.24    | 39.58  |
| 2017 only                              | 197   | 14.71   | 54.29  |
| 2006 and 2010 only                     | 196   | 14.64   | 68.93  |
| 2010 and 2017 only                     | 170   | 12.70   | 81.63  |
| 2006, 2010 and 2017                    | 246   | 18.37   | 100.00 |

| Size   | Freq. | Percent | Cum.   |
|--------|-------|---------|--------|
| Small  | 93    | 37.80   | 37.80  |
| Medium | 85    | 34.55   | 72.36  |
| Large  | 68    | 27.64   | 100.00 |
| Total  | 246   | 100.00  |        |

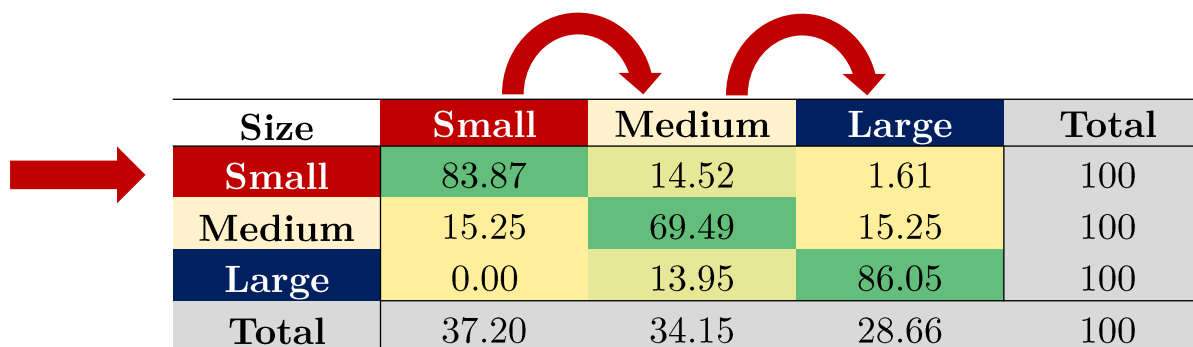
| xtset: panelid year |                                   |
|---------------------|-----------------------------------|
| panel variable:     | panelid (strongly balanced)       |
| time variable:      | year, 2006 to 2017, but with gaps |
| delta:              | 1 unit                            |



# Matriz de transición: tamaño de la firma 2006, 2010 y 2017

Reports transition probabilities (the change in one categorical variable over time).

In cross-sectional time-series data, we can estimate the probability that  $x_{i,t+1} = v_2$  given that  $x_{it} = v_1$  by counting transitions.



| Size   | Small | Medium | Large | Total |
|--------|-------|--------|-------|-------|
| Small  | 83.87 | 14.52  | 1.61  | 100   |
| Medium | 15.25 | 69.49  | 15.25 | 100   |
| Large  | 0.00  | 13.95  | 86.05 | 100   |
| Total  | 37.20 | 34.15  | 28.66 | 100   |

The rows reflect the **initial values**, and the columns reflect the **final values**.

- Each year, some 84% of the Small firms in the data remained Small firm category in the next year,
- 14% of Small firms became Medium firms in the next period,
- and the remaining 2% would become large firms.

*Gracias...*

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## Modelo Logístico - Informalidad (2017 - 2018)

| Año   | 2017    |         | 2018    |         |
|---|---------|---------|---------|---------|
| Variables                                       | mujer   | hombre  | mujer   | hombre  |
| Escolaridad                                     | -1.779  | -0.911  | -1.412  | -1.044  |
| Educación Superior                              | -7.111  | -14.003 | -5.121  | -10.308 |
| Tasa de participación PEA                       | 0.303   | 0.283   | 0.224   | 0.238   |
| Indígena  | 2.329   | 2.581   | 0.822   | 1.234   |
| Tecnologías de la Información y la Comunicación | -10.763 | -9.243  | -10.572 | -10.238 |
| Pareja  | 2.217   | -0.133  | -0.583  | -1.951  |
| Hijos menores a 6 años                          | 2.499   | 2.323   | 2.742   | 2.807   |
| Hijos entre 7 y 14 años                         | 0.744   | 1.258   | 0.104   | -0.05   |
| Edad  | 0.368   | 0.522   | 0.293   | 0.404   |
| Número miembros en el hogar                     | 1.375   | 0.774   | 0.696   | 0.281   |
| Eje central del país                            | -6.783  | -8.199  | -3.955  | -4.808  |
| Altiplano                                       | 1.203   | -0.099  | -0.489  | -2.398  |
| Área urbana                                     | -5.553  | -6.02   | -5.434  | -7.961  |
| Pobreza moderada                                | 11.356  | 12.457  | 8.091   | 11.383  |
| Pobreza extrema                                 | 14.318  | 19.465  | 12.774  | 16.136  |



ESTADO PLURINACIONAL DE  
**BOLIVIA**

MINISTERIO DE  
ECONOMÍA Y FINANZAS PÚBLICAS

# Informalidad según actividad Económica (En porcentaje)

| Año                                      | 2017     |        | 2018     |        |
|--|----------|--------|----------|--------|
|  | Informal | Formal | Informal | Formal |
| Actividad económica                      |          |        |          |        |
| Agricultura, Ganadería, Caza, Pesca      | 92       | 8      | 97       | 3      |
| Explotación de Minas y Canteras          | 12       | 88     | 16       | 84     |
| Industria Manufacturera                  | 57       | 43     | 66       | 34     |
| Suministro de electricidad, gas, vapor   | 2        | 98     | 5        | 95     |
| Suministro de agua                       | 22       | 78     | 2        | 98     |
| Construcción                             | 48       | 52     | 70       | 30     |
| Venta por mayor y menor, reparación de a | 78       | 22     | 86       | 14     |
| Transporte y Almacenamiento              | 88       | 12     | 90       | 10     |
| Actividades de alojamiento y servicio d  | 67       | 33     | 81       | 19     |
| Informaciones y Comunicaciones           | 28       | 72     | 38       | 62     |
| Intermediación Financiera y Seguros      | 4        | 96     | 5        | 95     |
| Actividades inmobiliarias                | 33       | 67     | 59       | 41     |
| Servicios Profesionales y Técnicos       | 62       | 38     | 78       | 22     |
| Actividades de Servicios Administrativo  | 38       | 62     | 49       | 51     |
| Adm. Pública, Defensa y Seguridad Social | 1        | 99     | 0        | 100    |
| Servicios de Educación                   | 3        | 97     | 3        | 97     |
| Servicios de Salud y Asistencia Social   | 16       | 84     | 21       | 79     |
| Actividades artísticas, entretenimiento  | 44       | 56     | 57       | 43     |