Data Article

Tobacco tax and price in the developed and developing countries in the World

Mina Riahi a, Hosein Rohani b, Naser Rajabi c, Mohammad Bidkhori d, *

a Department of Health, Shahrekord University Of Medical Science, Shahrekord, Iran
b Student research committee, Esfarayen Faculty of Medical Sciences, Esfarayen, Iran
c Department of Epidemiology and Biostatistics, Isfahan University of Medical Sciences, Isfahan, Iran
d Department of Public Health, Neyshabur University of Medical Sciences, Neyshabur, Iran

ARTICLE INFO

Article history:
Received 25 February 2018
Accepted 27 June 2018
Available online 3 July 2018

Keywords:
Tobacco
Tobacco affordability
Tobacco tax
Human Development Index

ABSTRACT

An ecologic study was conducted on 177 countries which the information of tobacco tax and price and also Human Development Index (HDI) was available in 2014. In this study, the relationship between HDI and four reported indexes by World Health Organization (WHO) was studied. These four indexes included: Tobacco affordability, Taxes as a percent of price of the most sold brand (total tax), Price of a 20 cigarette pack of the most sold brand international dollars at purchasing power parity (Price_ppp) and Price of a 20 cigarette pack of the most sold brand in US$ at financial exchange rates (Price_US$). The data of HDI and tobacco were mined from WHO and United Nations Development Programme sites respectively. To study the correlation between HDI and the variables of this study, Pearson correlation coefficient was used and also Linear Regression Analysis was used to study the relationship between HDI and the variables of the study. According to the findings of the linear regression analysis, there was a significant relationship between HDI and total tax ($B = 0.81, \text{CI 95\%: 0.63–0.99}$) and tobacco affordability ($B = -0.35, \text{CI 95\%: -0.42 – -0.28}$). There was also a significant relationship between HDI whit price-ppp ($B = 9.44, \text{CI 95\%: 7.13–11.75}$) and price-US$ ($B = 11.97, \text{CI 95\%: 9.71–14.23}$). According to the findings of this study, less developed countries devote less tax on tobacco. Due to the rising trend of the prevalence and also development of non-communicable diseases such as lung cancer...
in developing countries, policy makers of these countries are required to design stricter policies toward tobacco production and supply as well.

© 2018 Published by Elsevier Inc. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).

Specifications Table

| Subject area                  | environmental science |
|------------------------------|-----------------------|
| More specific subject area   | Economics             |
| Type of data                 | Table and figure       |
| How data was acquired        | Secondary data         |
| Data format                  | Raw and analyzed       |
| Experimental factors         | In order to determine the association and correlation between the variables, linear regression and Pearson’s correlation analyses were performed respectively by STATA 14. |
| Experimental features        | Investigation relationship between human development index (HDI) and Tobacco affordability, taxes in the price of a cigarette pack (total tax) and Price of a 20 cigarette pack of the most sold brand |
| Data source location         | Data Obtained from: WHO, United Nations Development Programme |
| Data accessibility           | Data are available from: United Nations Development Programme. Human Development Report 2016 [cited 2017 December 13, 2017]. Available from: http://hdr.undp.org/sites/default/files/2016_human_development_report.pdf. |
|                             | World Health Organization. WHO report on the global tobacco epidemic 2017 [cited 2017 December 8, 2017]. Available from: http://www.who.int/tobacco/global_report/2013/full_dataset/en/ |

Value of the data

- Recognition of barriers policy makers are faced with to control tobacco consumption is of great significance.
- The findings of the study reveal that environmental, social and economic factors are among the most influential factors on governments’ actions to control tobacco consumption.
- According to the findings of the study, less developed countries devote less tax on tobacco. Due to the rising trend of the prevalence of non-communicable diseases such as lung cancer in developing countries, the policy makers of these countries are required to design stricter policies toward tobacco’s production and consumption.
- This study was an investigation about the laws of different countries toward framework convention on tobacco control based on Human Development Index.

1. Data

After excluding those countries whose information was unavailable or incomplete, 177 countries were investigated in the present study (Table 1).

There was a positive correlation between HDI and total tax which was significant statistically ($r = 0.56$, $p < 0.001$). There was also a negative and significant correlation between HDI and affordability ($r = -0.65$, $p < 0.001$) (Fig. 1).
### Table 1
Human Development Index, Tobacco affordability, Taxes as a percent of price of the most sold brand, Price of a 20-cigarette pack of the most sold brand international dollars at purchasing power parity and Price of a 20 cigarette pack of the most sold brand in US$ at official exchange rates in 2014.

| Country                        | Total tax estimate | Affordability | Price _ppp | Price_US$ | HDI  |
|--------------------------------|--------------------|---------------|------------|-----------|------|
| Afghanistan                    | 0.03               | 0.05          | 1.04       | 0.35      | 0.479|
| Libya                          | 0.08               | 0.04          | 5.21       | 2.38      | 0.719|
| Benin                          | 0.09               | 0.11          | 2.28       | 1.02      | 0.481|
| Iran                           | 0.11               | 0.01          | 1.85       | 0.57      | 0.774|
| Sierra Leone                   | 0.13               | 0.1           | 1.95       | 0.78      | 0.431|
| Togo                           | 0.13               | 0.13          | 1.79       | 0.82      | 0.484|
| Antigua and Barbuda            | 0.15               | 0.02          | 4.94       | 2.96      | 0.784|
| Paraguay                       | 0.16               | 0.01          | 0.64       | 0.35      | 0.692|
| Azerbaijan                     | 0.17               | 0.02          | 3.94       | 1.79      | 0.758|
| Lao People’s Democratic Republic | 0.17              | 0.06          | 2.9        | 0.99      | 0.582|
| Saint Vincent and the Grenadines | 0.17            | 0.03          | 3.01       | 1.85      | 0.72 |
| Cameroon                       | 0.18               | 0.07          | 2.15       | 1.02      | 0.514|
| Guinea-Bissau                  | 0.19               | 0.09          | 1.39       | 0.61      | 0.421|
| Ethiopia                       | 0.19               | 0.12          | 2.06       | 0.76      | 0.441|
| Iraq                           | 0.19               | 0.01          | 1.04       | 0.43      | 0.649|
| Saudi Arabia                   | 0.2                | 0.01          | 5.71       | 2.67      | 0.845|
| Qatar                          | 0.2                | 0              | 4.01       | 2.75      | 0.855|
| United Arab Emirates           | 0.2                | 0.01          | 4.15       | 2.72      | 0.836|
| Bahrain                        | 0.2                | 0.01          | 4.93       | 2.66      | 0.823|
| Saint Kitts and Nevis          | 0.2                | 0.02          | 4.4        | 2.96      | 0.762|
| Gabon                          | 0.21               | 0.02          | 3.67       | 2.04      | 0.694|
| Nigeria                        | 0.21               | 0.04          | 2.57       | 1.42      | 0.525|
| Malawi                         | 0.21               | 0.55          | 6.1        | 2.01      | 0.473|
| Cambodia                       | 0.22               | 0.04          | 1.34       | 0.44      | 0.558|
| Oman                           | 0.22               | 0.01          | 4.59       | 2.34      | 0.795|
| Liberia                        | 0.23               | 0.16          |            | 0.69      | 0.427|
| Dominica                       | 0.23               | 0.02          | 2.37       | 1.57      | 0.724|
| Rwanda                         | 0.23               | 0.13          | 2.28       | 0.95      | 0.493|
| Cabo Verde                     | 0.24               | 0.06          | 3.83       | 2.18      | 0.646|
| Kuwait                         | 0.24               | 0.01          | 4.6        | 2.65      | 0.799|
| Angola                         | 0.24               | 0.04          | 2.85       | 2.06      | 0.531|
| Mauritania                     | 0.25               | 0.11          | 4.68       | 1.74      | 0.513|
| Sao Tome and Principe          | 0.25               | 0.06          | 2.01       | 1.09      | 0.565|
| Guyana                         | 0.25               | 0.04          | 2.62       | 1.45      | 0.638|
| Côte d’Ivoire                  | 0.26               | 0.09          | 3.02       | 1.43      | 0.466|
| Tajikistan                     | 0.26               | 0.09          | 2.46       | 1.01      | 0.625|
| Turkmenistan                   | 0.26               | 0.05          | 7.29       | 4.09      | 0.688|
| Ghana                          | 0.28               | 0.06          | 2.42       | 0.82      | 0.575|
| Solomon Islands                | 0.28               | 0.2           | 3.88       | 4.13      | 0.514|
| Niger                          | 0.28               | 0.21          | 2.23       | 1.02      | 0.351|
| Mali                           | 0.28               | 0.16          | 3.28       | 1.43      | 0.438|
| Nepal                          | 0.28               | 0.19          | 4.54       | 1.37      | 0.555|
| Djibouti                       | 0.29               | 0.07          | 2.04       | 1.13      | 0.47 |
| Trinidad and Tobago            | 0.3                | 0.02          | 5.88       | 3.6       | 0.779|
| Mozambique                     | 0.31               | 0.15          | 1.75       | 0.98      | 0.414|
| Chad                           | 0.31               | 0.11          | 3.02       | 1.43      | 0.394|
| United Republic of Tanzania    | 0.31               | 0.21          | 5.63       | 2.12      | 0.519|
| Burkina Faso                   | 0.32               | 0.14          | 2.39       | 1.02      | 0.399|
| Viet Nam                       | 0.32               | 0.04          | 2.44       | 0.88      | 0.678|
| Nicaragua                      | 0.32               | 0.08          | 3.8        | 1.5       | 0.642|
| Uzbekistan                     | 0.33               | 0.05          | 2.6        | 0.94      | 0.697|
| Central African Republic       | 0.33               | 0.28          | 1.69       | 1.02      | 0.347|
| Armenia                        | 0.33               | 0.04          | 3.03       | 1.48      | 0.741|
| Zambia                         | 0.34               | 0.08          | 3.23       | 1.47      | 0.576|
| Timor-Leste                     | 0.34              | 0.11          | 1.7        | 1.25      | 0.603|
| Senegal                        | 0.35               | 0.1           | 2.25       | 1.02      | 0.491|
| Country                          | Total tax estimate | Affordability | Price _ppp | Price_US$ | HDI  |
|---------------------------------|--------------------|---------------|------------|-----------|------|
| Zimbabwe                       | 0.36               | 0.13          | 2.51       | 1.3       | 0.507|
| Papua New Guinea               | 0.36               | 0.22          | 7.33       | 6.54      | 0.515|
| Belize                         | 0.37               | 0.05          | 4.34       | 2.5       | 0.706|
| Honduras                       | 0.37               | 0.07          | 3.45       | 1.72      | 0.623|
| Peru                           | 0.38               | 0.03          | 4.02       | 2.22      | 0.737|
| Kyrgyzstan                     | 0.39               | 0.05          | 1.69       | 0.68      | 0.662|
| Kazakhstan                     | 0.39               | 0.01          | 2.31       | 1.15      | 0.793|
| Bolivia                        | 0.39               | 0.05          | 3.09       | 1.45      | 0.671|
| India                          | 0.41               | 0.14          | 8.13       | 2.29      | 0.615|
| Congo                          | 0.41               | 0.04          | 2.55       | 1.22      | 0.59 |
| Namibia                        | 0.42               | 0.06          | 6.9        | 3.74      | 0.637|
| Barbados                       | 0.42               | 0.04          | 7.27       | 6.93      | 0.794|
| Burundi                        | 0.43               | 0.32          | 2.84       | 1.03      | 0.406|
| Lebanon                        | 0.43               | 0.02          | 3.52       | 2.16      | 0.763|
| Jamaica                        | 0.43               | 0.15          | 12.55      | 7.1       | 0.729|
| United States of America       | 0.43               | 0.01          | 6.23       | 6.23      | 0.918|
| Bahamas                        | 0.43               | 0.03          | 7.29       | 7         | 0.79 |
| China                          | 0.44               | 0.02          | 2.81       | 1.62      | 0.734|
| Mongolia                       | 0.44               | 0.04          | 4.25       | 1.44      | 0.733|
| Fiji                           | 0.44               | 0.08          | 6.98       | 4.21      | 0.734|
| Swaziland                      | 0.45               | 0.08          | 7.73       | 3.27      | 0.541|
| Uganda                         | 0.45               | 0.11          | 2.11       | 0.76      | 0.488|
| Gambia                         | 0.46               | 0.17          | 2.7        | 0.71      | 0.45 |
| Lesotho                        | 0.46               | 0.24          | 8.11       | 3.27      | 0.495|
| Democratic Republic of the Congo | 0.48            | 0.18          | 1.31       | 0.81      | 0.425|
| Russian Federation             | 0.48               | 0.01          | 3.29       | 1.88      | 0.805|
| Grenada                        | 0.48               | 0.03          | 4.11       | 2.78      | 0.751|
| Georgia                        | 0.49               | 0.03          | 2.59       | 1.26      | 0.768|
| Kenya                          | 0.49               | 0.08          | 2.47       | 1.14      | 0.55 |
| Guatemala                      | 0.49               | 0.06          | 4.22       | 2.05      | 0.637|
| Colombia                       | 0.49               | 0.02          | 2.09       | 1.32      | 0.724|
| South Africa                   | 0.49               | 0.05          | 5.91       | 2.97      | 0.665|
| Kiribati                       | 0.49               | 0.26          | 4.5        | 4.48      | 0.586|
| Myanmar                        | 0.5                | 0.05          | 2.61       | 0.67      | 0.552|
| Equatorial Guinea              | 0.51               | 0             | 1.75       | 1.02      | 0.582|
| Comoros                        | 0.51               | 0.15          | 2.35       | 1.38      | 0.498|
| Republic of Moldova            | 0.51               | 0.05          | 2.39       | 1.08      | 0.701|
| Algeria                        | 0.51               | 0.02          | 2.73       | 1.08      | 0.743|
| Belarus                        | 0.52               | 0.01          | 1.57       | 0.68      | 0.798|
| Vanuatu                        | 0.52               | 0.24          | 6.23       | 7.56      | 0.598|
| El Salvador                    | 0.53               | 0.05          | 4.07       | 2         | 0.678|
| Indonesia                      | 0.53               | 0.04          | 4.67       | 1.58      | 0.686|
| Yemen                          | 0.54               | 0.08          | 3.14       | 1.3       | 0.499|
| Botswana                       | 0.55               | 0.04          | 6.65       | 3.08      | 0.698|
| Eritrea                        | 0.55               | 0.59          | 7.94       | 3.9       | 0.418|
| Samoa                          | 0.55               | 0.1           | 4.96       | 4.13      | 0.702|
| Malaysia                       | 0.55               | 0.03          | 8.36       | 3.76      | 0.787|
| Iceland                        | 0.56               | 0.02          | 8.79       | 10.59     | 0.919|
| Suriname                       | 0.56               | 0.03          | 4.71       | 2.73      | 0.723|
| Australia                      | 0.57               | 0.03          | 11.73      | 15.9      | 0.937|
| Panama                         | 0.57               | 0.03          | 7.06       | 4.25      | 0.785|
| Micronesia (Federated States of)| 0.58              | 0.07          | 2.02       | 2.12      | 0.637|
| Dominican Republic             | 0.59               | 0.05          | 7.47       | 3.43      | 0.718|
| Pakistan                       | 0.61               | 0.03          | 1.65       | 0.48      | 0.548|
| Switzerland                    | 0.61               | 0.01          | 6.2        | 9.24      | 0.938|
| Tonga                          | 0.61               | 0.11          | 5.28       | 4.68      | 0.718|
| Republic of Korea              | 0.62               | 0.01          | 3.01       | 2.43      | 0.899|
| Saint Lucia                    | 0.63               | 0.03          | 3.79       | 2.69      | 0.735|
| Albania                        | 0.64               | 0.04          | 4.51       | 1.93      | 0.762|
| Country            | Total tax estimate | Affordability | Price _ppp | Price_US$ | HDI    |
|--------------------|--------------------|---------------|------------|-----------|--------|
| Japan              | 0.64               | 0.01          | 4.21       | 4.18      | 0.902  |
| Brazil             | 0.65               | 0.02          | 3.33       | 2.54      | 0.754  |
| Singapore          | 0.66               | 0.02          | 15.35      | 10.44     | 0.924  |
| Maldives           | 0.66               | 0.03          | 4.07       | 2.47      | 0.701  |
| Palau              | 0.67               | 0.04          | 5.15       | 5.25      | 0.783  |
| Uruguay            | 0.67               | 0.02          | 4.19       | 3.35      | 0.794  |
| Andorra            | 0.68               |               |            | 4.68      | 0.857  |
| Mexico             | 0.68               | 0.03          | 5.62       | 3.45      | 0.758  |
| Sweden             | 0.69               | 0.01          | 6.78       | 8.53      | 0.909  |
| Cuba               | 0.7                |               |            | 7         | 0.773  |
| Morocco            | 0.7                | 0.07          | 5.48       | 2.34      | 0.645  |
| Argentina          | 0.7                | 0.01          | 2.69       | 1.77      | 0.826  |
| Sri Lanka          | 0.7                | 0.12          | 12.94      | 4.61      | 0.764  |
| Canada             | 0.7                | 0.02          | 7.49       | 8.49      | 0.919  |
| Luxembourg         | 0.7                | 0.01          | 5.41       | 6.69      | 0.896  |
| Ecuador            | 0.7                | 0.05          | 5.59       | 3.1       | 0.739  |
| Costa Rica         | 0.7                | 0.03          | 4.29       | 2.97      | 0.775  |
| Venezuela          | 0.71               | 0.09          | 16.1       | 14.32     | 0.769  |
| Sudan              | 0.72               | 0.13          | 5.47       | 2.46      | 0.488  |
| Egypt              | 0.73               | 0.03          | 3.8        | 1.12      | 0.688  |
| Netherlands        | 0.73               | 0.02          | 7.77       | 8.45      | 0.923  |
| Thailand           | 0.73               | 0.03          | 5.29       | 2.03      | 0.738  |
| Mauritius          | 0.73               | 0.04          | 7.62       | 4.1       | 0.779  |
| Germany            | 0.73               | 0.02          | 7.04       | 7.32      | 0.924  |
| Philippines        | 0.74               | 0.02          | 1.47       | 0.62      | 0.679  |
| Austria            | 0.74               | 0.01          | 5.91       | 6.56      | 0.892  |
| Portugal           | 0.75               | 0.03          | 7.34       | 6.02      | 0.841  |
| Malta              | 0.75               | 0.02          | 8.56       | 6.42      | 0.853  |
| Croatia            | 0.75               | 0.03          | 6.22       | 4.04      | 0.823  |
| Romania            | 0.75               | 0.04          | 8.59       | 4.39      | 0.798  |
| Denmark            | 0.75               | 0.01          | 5.74       | 7.89      | 0.923  |
| Tunisia            | 0.75               | 0.03          | 3.94       | 1.48      | 0.723  |
| Belgium            | 0.76               | 0.02          | 6.98       | 7.75      | 0.895  |
| Lithuania          | 0.76               | 0.02          | 5.34       | 3.65      | 0.846  |
| Italy              | 0.76               | 0.02          | 6.62       | 6.69      | 0.881  |
| Bangladesh         | 0.76               | 0.08          | 2.63       | 0.9       | 0.575  |
| New Zealand        | 0.77               | 0.03          | 11.51      | 14.43     | 0.913  |
| Latvia             | 0.77               | 0.03          | 6          | 4.01      | 0.828  |
| Czech Republic     | 0.77               | 0.02          | 5.34       | 3.49      | 0.875  |
| Estonia            | 0.77               | 0.02          | 6.46       | 4.68      | 0.863  |
| Hungary            | 0.77               | 0.03          | 7.73       | 4.29      | 0.834  |
| Cyprus             | 0.77               | 0.02          | 6.3        | 5.35      | 0.854  |
| Serbia             | 0.78               | 0.03          | 4.17       | 1.95      | 0.775  |
| Spain              | 0.78               | 0.02          | 7.15       | 6.42      | 0.882  |
| Ireland            | 0.78               | 0.02          | 11.88      | 12.84     | 0.92   |
| Montenegro         | 0.78               | 0.02          | 3.59       | 1.74      | 0.804  |
| Madagascar         | 0.8                | 0.27          | 3.97       | 1.22      | 0.511  |
| Slovenia           | 0.8                | 0.02          | 5.7        | 4.62      | 0.888  |
| France             | 0.8                | 0.02          | 8.52       | 9.37      | 0.894  |
| Seychelles         | 0.8                | 0.04          | 10.01      | 6.09      | 0.781  |
| Poland             | 0.8                | 0.03          | 7.66       | 4.41      | 0.852  |
| Greece             | 0.8                | 0.02          | 6.4        | 5.35      | 0.865  |
| Ukraine            | 0.81               | 0.02          | 2.12       | 0.74      | 0.748  |
| Bosnia and Herzegovina | 0.82          | 0.05          | 5.29       | 2.53      | 0.747  |
| Turkey             | 0.82               | 0.03          | 6.95       | 3.82      | 0.764  |
| Finland            | 0.82               | 0.01          | 5.95       | 7.36      | 0.893  |
| United Kingdom of Great Britain and Northern Ireland | 0.82 | 10.78 | 12.69 | 0.908 |
| Slovakia           | 0.82               | 0.02          | 5.8        | 3.8       | 0.842  |
To study the association between HDI and total tax, linear regression analysis was used. According to the findings of this study, there was a statistically significant relationship between HDI and total tax ($B = 0.81$, CI 95%: 0.63–0.99). In fact, in average when HDI increases for one unit, tax rises proportionally.

According to the linear regression analysis, there was a statistically significant relationship between HDI and affordability ($B = 0.35$, CI 95%: −0.41, −0.28). According to the findings of this study, in average when HDI increases for one unit, affordability decreases. Therefore, countries with higher HDI level possess lower level of affordability (Table 2).

In the present study, there was a significant and negative correlation between HDI and price-ppp ($r = 0.52$, $p < 0.001$) and price-US$ ($r = 0.62$, $p < 0.001$) (Fig. 2). As seen in Fig. 2, in countries with lower HDI, less money is required to purchase tobacco products which makes the process of tobacco availability easier. In contrast, in countries with higher HDI, more money is required to purchase tobacco products which impacts the process of people’s intention and availability tobacco.

Linear regression analysis found a statistically significant relationship between HDI and price-ppp ($B = 9.44$, CI 95%: 7.13–11.75) and price-US$ ($B = 11.97$, CI 95%: 9.71–14.23) (Table 3).

**Table 1 (continued )**

| Country | Total tax estimate | Affordability | Price _ppp | Price_US$ | HDI   |
|---------|-------------------|---------------|------------|-----------|-------|
| Chile   | 0.83              | 0.02          | 4.73       | 2.98      | 0.845 |
| Bulgaria| 0.83              | 0.04          | 7.4        | 3.21      | 0.792 |
| Jordan  | 0.83              | 0.03          | 3.77       | 1.69      | 0.741 |
| Israel  | 0.84              | 0.02          | 7.48       | 8.75      | 0.898 |

**Fig. 1.** Correlation between HDI and a: taxes in the price of a cigarette pack (total tax), b: Tobacco affordability in 2014.
2. Experimental design, materials and methods

2.1. Study countries description

Based on the studied conducted, tobacco tax and price are among the influential factors on the fall of tobacco consumption [1–6]. An ecologic study was conducted. After crossing out those countries whose information was unavailable or incomplete, 177 countries were investigated. In this study, the relationship between HDI and four variables of the study was analyzed. In this study, the relationship between HDI and four reported indexes by World Health Organization (WHO) was studied. These four indexes included: Tobacco affordability, Taxes as a percent of price of the most sold brand (total tax),

| Independent variable | Dependent variable | B   | p-Value | 95% Confidence Interval |
|----------------------|--------------------|-----|---------|-------------------------|
| HDI                  | Total tax          | 0.81| < 0.001 | (0.63–0.99)             |
|                      | Affordability      | −0.35| < 0.001 | (−0.42–−0.28)           |

![Fig. 2. Correlation between HDI and a: price of the most sold brand (ppp), b: price of the most sold brand (US$) in 2014.](image)

| Independent variable | Dependent variable | B   | p-value  | 95% Confidence Interval |
|----------------------|--------------------|-----|----------|-------------------------|
| HDI                  | Price _ppp         | 9.44| < 0.001  | (7.13–11.75)            |
|                      | Price _US$         | 11.97| < 0.001  | (9.71–14.23)            |

Table 2
Effect of HDI on total tax and affordability in 2014.

Table 3
Effect of HDI on Price _ppp and Price _US$ in 2014.
Price of a 20 cigarette pack of the most sold brand international dollars at purchasing power parity (Price_ppp) and Price of a 20 cigarette pack of the most sold brand in US$ at official exchange rates (Price_US$). The data of HDI and the information of tobacco were mined from WHO and United Nations Development Programme websites, respectively [7,8].

2.2. Analytical procedures

To study the correlation between HDI and the variables of the study, Pearson correlation coefficient was used. Meanwhile, linear regression analysis was used to analyze the relationship between HDI and the variables of the study.

Transparency document. Supplementary material

Transparency document associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2018.06.100.

References

[1] F.J. Chaloupka, A. Yurekli, G.T. Fong, Tobacco taxes as a tobacco control strategy, Tob. Control 21 (2) (2012) 172–180.
[2] L.M. Ho, C. Schafferer, J.M. Lee, C.Y. Yeh, C.J. Hsieh, The effect of cigarette price increases on cigarette consumption, tax revenue, and smoking-related death in Africa from 1999 to 2013, Int. J. Public Health 62 (8) (2017) 899–909.
[3] N. Nargis, Y. Manneh, B. Krubally, B. Jobe, A.E. Ouma, N. Tcha-Kondor, et al., How effective has tobacco tax increase been in the Gambia? A case study of tobacco control, BMJ Open 6 (8) (2016) e010413.
[4] T. Tabuchi, T. Fujiwara, T. Shinozaki, Tobacco price increase and smoking behaviour changes in various subgroups: a nationwide longitudinal 7-year follow-up study among a middle-aged Japanese population, Tob. Control 26 (1) (2017) 69–77.
[5] T. Tabuchi, M. Nakamura, T. Nakayama, I. Miyashiro, J. Mori, H. Tsukuma, Tobacco price increase and smoking cessation in Japan, a developed country with affordable tobacco: a national population-based observational study, J. Epidemiol. 26 (1) (2016) 14–21.
[6] C.Y. Yeh, C. Schafferer, J.M. Lee, L.M. Ho, C.J. Hsieh, The effects of a rise in cigarette price on cigarette consumption, tobacco taxation revenues, and of smoking-related deaths in 28 EU countries– applying threshold regression modelling, BMC Public Health 17 (1) (2017) 676.
[7] United Nations Development Programme. Human Development Report 2016. Available from: (http://hdr.undp.org/sites/default/files/2016_humanvelopment_report.pdf) (cited 2017 13 December 2017).
[8] World Health Organization. WHO report on the global tobacco epidemic 2017. Available from: (http://www.who.int/tobacco/global_report/2013/full_dataset/en/) (cited 2017 8 December 2017).