

Politecnico di Torino

Master's Thesis

Graduation Session September/October-2022

Department of Engineering Management & Production (DIGEP)

Foreign Direct Investment and The Environment

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Acknowledgment

First , i would like to show appreciation to my supervisor Prof. Anna D'Ambrosio. This thesis would not have been finished if it weren't for her help and committed participation in each and every step of the procedure. Please accept my sincere gratitude for your help and patience over the past couple of months. Whenever I had a problem or a query regarding my research or writing, the door to the professor's office was always open. She regularly let me to write this thesis on my own, but guided me always when she felt I needed it.

I have a huge list of individuals to thank for their patience with me over the past years, as finishing my studies required more than just academic help.

Most significantly, without my family, none of this would have been possible. My parents, my sister and my brother-in-law and my two little nephew and niece , who, while living far away from me, have always been there for me and whose emotional presence has prevented me from feeling their absence over the course of my studies.

I owe a debt of gratitude to my friends and coworkers since we have always taken care of each other through the tough times and persisted together, sharing many good moments and memories along the way. Being unappreciative at this time would be unfair. I would like to appreciate my close friends Ahmad Arif , Abdullah Ashfaq, Mian Hassan Ijaz, Tabin Haider , Rocco Pisto , Luca Fontana, Federico Pulinas and Nicolo Marini with whom i had great memories and for their continuous support and encouragement throughout my years of study.



Abstract

Many countries developed Special Economic Zones (SEZs) as test sites for the implementation of liberal market economy concepts. SEZs main purpose is to create jobs, substitute imported products to localized ones, and bring foreign exchange in countries. These are however perceived as macroeconomic tools for increasing the acceptability and legitimacy of industrial transformation strategies, attracting capital inflows, and facilitating liberalization. These SEZ are a great way to attract Foreign direct investment as these zones are subjected to policies which are beneficial for the investors. The objective of this thesis is to find the link between FDI and the pollution externalities (i.e. CO2 emissions). The focus is to study the Special Economic Zones in Pakistan created from the beginning till now and see the CO2 and CO emissions rise in the past couple of year and perform the regression analysis to comprehend either they are co-related or not. The first month of the thesis was utilitzed to learn the software ARCGIS Pro from different sources such as coursera, Youtube and linkedIn as the initial step was to graphically represents the SEZ on this software. Later to plot the CO2 and CO emission data on it, NASA earth science data website was utilized to gather the emissions data . The Goddard Earth Sciences Data and Information Services Center (GES-DISC) created Giovanni, a Web-based tool that offers a straightforward and userfriendly approach to explore, analyze, and retrieve enormous volumes of Earth science remote sensing data. The data was downloaded in (.PNG) format and to be accessible through ARCGIS, a raster layer was created which then graphically represented the amount of emission on the existed layer. A detailed description of all the work will be



discussed in the following chapters. All this data contributed to generate the attribute table which includes all the information regarding the SEZ, their location and the amount of emissions in all the zones.

In the final phase of thesis, I learnt to use the software Stata IC and it is used to perform the regression analysis.



Introduction

Foreign Direct Investment (FDI) is typically thought to play a crucial role in the economic development of all nations operating in the open market¹, particularly emerging ones. It serves as a magic bullet for escaping the vicious cycle of low savings/poor income and makes it easier to import capital goods and cutting-edge technological expertise.

The greatest FDI beneficiaries globally continue to be developing nations, despite the fact that they produce significant and steadily rising FDI inflows. Developing nations run the risk of getting stuck in relatively low value added industries if they don't integrate the global value chain activities. Because of this, these nations must carefully consider the benefits and drawbacks of integrating global value chains and decide whether to strategically promote or discourage FDIs in order to ensure coordinated economic, social, and environmental advancement in order to achieve sustainable development.

Controversial theories have been developed as a result of research on the connection between FDI and the environment (and more especially, pollution). The **Pollution Haven hypothesis**² states, first, that weak environmental laws in a host country (a developing one) can encourage foreign businesses from pollution-intensive industries looking to avoid expensive environmental compliance in their [developed] place of origin.

¹ Open Market: A market that is open to competition has little to no restrictions on how businesses can operate.

² Pollution haven hypothesis: It demonstrates the idea that FDI increases carbon emissions because of lowering environmental standards in the nations where it invests.



In contrast, the **Factor Endowments theory** predicts that, under conditions of free trade and openness to FDI, MNCs³ seeking low-cost locations will increase pollution levels in capital-intensive [rich] countries (capital-intensive activities are typically believed to be pollution-intensive).

³ MNCs: Multinational corporations



Chapter 1 : Foreign Direct Investment

What is FDI?

Foreign direct investment (FDI) is defined by UNCTAD⁴ (1999) as "an investment involving a long-term relationship and reflecting a lasting interest and control of a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise, affiliate enterprise, or foreign affiliate" The final definition uses the word "longterm" to set FDI apart from portfolio investment, which is distinguished by being short-term in nature and involving a large turnover of securities.

FDI's unique quality makes it stand out from other types of International investment is a factor in decision-making and management strategy. According to Razin et al. (1999), the aspect of control gives direct investors an informational advantage over foreign portfolio more domestic savings and investors. Many businesses are hesitant to conduct out unless they have full equity ownership and control, foreign investments. Others won't invest in these things until they have at least majority control (i.e., a 51% ownership interest). However, there has been a decline in recent years.

Increases in total factor productivity and, more broadly, resource usage efficiency in the receiving economy are two ways that foreign investment affects growth. This

⁴ United Nation Conference on Trade and Development



operates through three different channels: the connections between FDI and foreign trade flows, spillover effects and other externalities on the business sector of the host nation, and direct effects on structural elements in the host market. Foreign investment appears to have a significant indirect effect on human capital in developing nations, with this influence coming more from government policies aimed at attracting FDI through improved human capital than through MNC initiatives. After someone is hired by a subsidiary of an MNC, their human capital may be further developed through training and on-the-job leadership. These subsidiaries could also boost human capital in other businesses they have connections with, such as suppliers (OECD,2002).

Foreign investment is frequently viewed as a potential tool by policymakers in some developing countries, particularly in those that are relatively less developed and only sporadically connected into global trade networks. According to the prevailing theory, MNCs may increase the domestic market's export orientation through channels such as their higher level of sophistication in product quality, brand recognition, and access to global markets; their potential to ease restrictions on using the host market's factor endowment; and their longer-term impact on the international competitiveness of the host economy's business sector.

There are three types of Foreign Direct Investment:

1-Horizontal FDI

The most prevalent kind of FDI is known as horizontal FDI, which focuses on investing money in a foreign business that is part of the same industry as the one in which the FDI



investor owns or operates. Here, a corporation invests in a company that is situated in a different nation and that manufactures comparable items.

2- Vertical FDI

Another form of foreign investment is vertical FDI. A vertical FDI takes place when an investment is made in a firm that may or may not be in the same sector, but is still part of a conventional supply chain. Therefore, when vertical FDI occurs, a company invests in a foreign company that may provide or sell items. Backward and forward vertical integrations are additional categories for vertical FDIs. Nescafe, a Swiss coffee manufacturer, may, for instance, invest in coffee farms in nations like Brazil, Colombia, Vietnam, etc. Backward vertical integration is the term used to describe this form of FDI since the investing business acquires from a supplier in the supply chain. A corporation is considered to engage in forward vertical integration when, on the other hand, it makes an investment in a foreign competitor that is further up the supply chain. For instance, an Italian coffee company would want to buy a French supermarket brand.

3-Conglomerate FDI

Conglomerate FDI refers to transactions in which investments are made in two wholly different businesses operating in completely distinct industries. As a result, the FDI is not directly related to the investor's enterprise. Walmart, a US retailer, may, for instance, invest in the automotive industry.



FDI and CO₂

Regarding foreign direct investment (FDI), emerging nations have attracted a lot of interest. However, due to the enormity of the CO₂ emissions in these economies, it is now urgent to find a solution, FDI is still growing. The percentage of CO₂ emissions from the percentage of emerging markets increased from 48% in 1980 to 61% in2011.¹

More CO₂ emissions from the host country could result from FDI entry especially for those nations that desperately need economic growth and a softening of environmental laws in to bring in foreign investment. On the other hand, Inflow of FDI may also result in beneficial knowledge transfer and spillovers, boost energy efficiency, and lower CO₂ emissions in the host countries. How might FDI be attracted to create a situation where carbon reduction and economic growth are mutually beneficial? It is crucial to comprehend the intricate relationships that exist between FDI inflows and CO₂ emissions in order to more effectively respond to these problems.

Scholars have concentrated on the relationship between FDI inflows and CO₂ emissions and apparently the scholars can be categorized into two groups; optimistic and pessimistic.

Pessimism is the first point of view. The pollution haven theory put forth by Walter and Ugelow (1979) and Pethig provided the early evidence in support of this viewpoint (1976). According to the pollution haven theory, some industries with high levels of contamination and consumption would be moved from other countries through FDI, leading to a significant rise in pollutant emissions because host countries'



environmental standards. A large number of studies have confirmed that FDI inflows excalates environmental pollution.

The pollution halo hypothesis (Birdsall and Wheeler, 1993), which represents the other perspective, is optimism. In light of this supposition, it is commonly agreed that multinational corporations that engage in FDI can provide high standards of production patterns and cutting-edge technology to the host nations, helping to reduce local pollution emissions. Pao and Tsai (2011)ⁱⁱ came to the conclusion that FDI inflows will contribute to reducing CO2 discharges in emerging markets after examining the impact of FDI on CO2 concentrations. Using a quantile regression technique, Zhu et al. (2016)ⁱⁱⁱ discovered that FDI helps host countries by reducing contamination levels. The findings of Zhang and Zhou (2016)^{iv}, which were based on a linear panel model, showed that FDI influxes and CO2 pollutants have an inverse relationship, supporting the pollution halo concept.

Emissions in Pakistan

Pakistan is one of the nations most impacted by the negative effects of air pollution and climate change. Pakistan was deemed the fifth most impacted country during the previous two decades as a result of climate change according to 2019 report by the research organization German Watch^v.

Being a developing nation, Pakistan must undergo an energy transition from highly polluting fossil fuels to clean forms of energy in order to support global efforts to reduce greenhouse gas (GHG) emissions as well as to protect public health and minimize air pollution. This is because, as a developing nation, Pakistan is obligated to have



increased energy consumption to ensure better living conditions for its citizens while

also meeting the demands for energy growth.



Source: Our World in Data based on Climate Analysis Indicators Tool (CAIT). Note: Greenhouse gases are weighted by their global warming potential value (GWP100). GWP100 measures the relative warming impact of one molecule of a greenhouse gas, relative to carbon dioxide, over 100 years. OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY

FIGURE 1 GREENHOUSE GAS EMISSIONS IN PAKISTAN^{vi}





OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY

FIGURE 2 CO2 EMISSIONS BY SECTOR^{vii}

The distribution of CO2 emissions among industries is seen in this graph. Similar to the worldwide breakdown of all greenhouse gases, the generation of energy and heat takes the lead, followed by transportation, manufacturing, and building.



Dur Worl in Data

Per capita CO2 emissions by sector, Pakistan, 2019



Source: Our World in Data based on Climate Analysis Indicators Tool (CAIT). OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY

FIGURE 3 PER CAPITA CO2 EMISSIONS



Chapter 2: FDI in Pakistan⁵

Most of the countries have policies through which they encourage foreign countries to invest in their country through FDI as it brings international trade, foreign funds, share of technology, diversification, employment and economic boost^{viii}.

Pakistan's GDP grew slowly, from 0.4% in 2008-2009 to 4.24% in 2014-2015, while going to -1.3% in 2020^{ix}. Most significantly, because of Covid-19, the nation's GDP growth rate didn't go well rather it drops down as alot of the countries in the world.

Negative projections have been made for 2020–2021. In spite of this, due to several strategic and economic advances that also involve building the China-Pakistan Economic Corridor (CPEC), Between 2014 and 2018, the economy of the nation showed encouraging trends across all significant economic sectors.

Despite the fact that international donors and rating agencies are placing their hopes in Pakistan's economic potential to become a rapidly expanding and promising regional economy, Pakistan is still having difficulty achieving its stated economic goals, which call for an annual growth rate of around 8%. Following persistent economic expansion locally, if not internationally, it is important to Pakistan should review its economic strategy because the nation has certain infrastructure, population, and human resource potential that might be extremely important in an unprecedented way in determining the socioeconomic makeup of the nation. For instance, despite a downturn in recent years, Over the past four decades, Pakistan's manufacturing

⁵ Pakistan fiscal year from 1st July till 30th June



industry has grown at an annual average pace of about 7%. This demonstrates the tenacity of Pakistani businesses and industries, which is essential for long-term economic progress.^x

Pakistan belongs to the group of developing countries given its tiny financial market and unstable foreign exchange and debt positions. In the early 90s the foreign exchange reserves remained less than \$1.3B⁶, which could only sufficient for 4-5 weeks of imports. Due to these circumstances, Pakistan needs to draw more foreign direct investment. FDI is a sizeable, long-term investment and a component of the host economy. FDI has a beneficial impact on the expansion of the economy of the host nation. The fact that FDI includes a package of finance, technology management, and market access is one compelling reason in favor of that. FDI typically targets manufacturing industries and important infrastructures that have a comparative advantage, both existing and potential. FDI would produce economies of scale and linking effects and increase productivity in those industries where it has a comparative advantage.

Repayment for FDI is only necessary if investors are profitable, and when they are profitable, they frequently reinvest their earnings rather than sending them elsewhere. A confidence-boosting effect is one more advantage of FDI. FDI inflows could boost confidence, fostering the development of a positive feedback loop that influences not

⁶ In early June 1998, in response to Pakistan's nuclear test, the G-7 imposed economic sanctions, which caused the country's foreign exchange reserves to drop to \$400–500 million. However, after the partial lifting of the G-7 sanctions and the restart of IMF support programs in January 1999, they returned to their prior level of \$1.2-1.3 billion.



only domestic and foreign investment but also international commerce and production.

In order to gradually raise foreign direct investment (FDI) from USD 2.8 billion in Fiscal Year (FY) 2019–20 to USD 7.4 billion by Fiscal Year (FY) 2022–23, the government is working on a multiyear FDI strategy.

The United States has continuously been among the top five sources of foreign direct investment in Pakistan during the past 20 years. China was Pakistan's top foreign direct investment source in 2019, partly because of initiatives associated with the China-Pakistan Economic Corridor. U.S. businesses have committed to investing more than USD 1.5 billion directly in Pakistan over the previous 15 months. Also Japan started its automobile production in Pakistan in the early 1980s by investing in Suzuki, Toyota and Honda to start the production of automobiles locally.

Between 1997 and 2022, Pakistan saw an average annual growth of 158.21 USD million, with a record high of 1262.90 USD million in June 2008 and a record low of -390.90 USD million in October 2018 as shown in Table^{xi}.





FIGURE 4 ANNUAL ECONOMIC GROWTH USD MILLIONS

In order to achieve its intended annualized return, effectively utilize its human and natural resources, strengthen its industrial and agricultural sectors, and, in general, establish itself a major regional economy, Several actions have already been taken by Pakistan. The 2015 inauguration of the historic China–Pakistan Economic Corridor (CPEC), a project of coordination and collaboration between the two countries, has become a symbol for rapid industrial growth and diffusion. Not only China but other countries have also invested in Pakistan due to its favorible economic policies.





FIGURE 5 INFLOW OF FDI IN \$BILLIONS^{xii}



Country	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (July)
China	126.1	90.6	695.8	340.8	1,048.3	763.2	1,311.9	130.8	846.6	751.6	531.6	4.6
UK	205.8	633.0	157.0	169.6	151.7	215.4	304.6	185.0	119.1	141.0	31.8	0.3
USA	227.7	227.1	212.1	223.9	15.7	45.7	161.7	88.1	99.2	166.4	249.6	12.1
Hong Kong	80.3	242.6	228.5	136.2	187.0	123.0	183.6	171.0	190.7	157.2	137.7	0.4
Switzerland	129.9	149.0	209.8	(6.5)	59.5	101.7	78.5	21.2	62.8	61.7	146.2	11.5
U.A.E.	36.8	22.5	(47.1)	235.3	114.6	120.1	(4.4)	103.7	(44.0)	115.7	143.9	12.6
Italy	200.1	199.4	97.6	115.4	105.4	61.5	56.6	51.9	57.4	36.3	34.8	1.1
Netherlands	22.3	(118.7)	5.5	(34.5)	29.9	457.6	100.3	69.0	133.2	96.9	104.1	6.3
Austria	69.1	53.3	53.8	24.8	42.7	21.7	27.4	7.6	3.8	1.0	0.0	0.0
Japan	29.8	30.1	30.1	71.1	35.4	57.7	59.8	117.3	52.5	(13.0)	(12.3)	1.1
Turkey	3.3	0.5	7.9	43.4	16.9	135.6	29.8	73.8	26.1	13.4	(0.3)	0.0
Others	(310.5)	(73.0)	47.7	(285.7)	585.8	303.4	470.5	343.0	1,076.2	305.7	500.7	35.9
Total	820.7	1,456.5	1,698.6	1,033.8	2,392.9	2,406.6	2,780.3	1,362.4	2,597.5	1,820.5	1,867.8	58.9

FIGURE 6 COUNTRYWISE NET FDI IN \$MILLIONS

Sector	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (July)
Oil & Gas	629.4	559.6	502.0	300.5	249.0	146.0	372.0	349.8	311.4	251.0	195.3	2.7
Financial Business	64.4	314.2	192.8	256.4	289.0	297.3	400.3	286.5	274.8	236.4	405.3	27.7
Textiles	29.8	13.9	(0.2)	43.9	20.0	15.5	49.7	76.8	37.7	2.6	3.6	(0.5)
Trade	25.3	5.1	(3.2)	50.6	26.6	32.6	143.0	76.3	43.2	115.9	79.9	3.4
Construction	72.1	47.7	28.8	53.5	36.9	8.3	40.4	70.2	20.9	31.1	36.5	2.9
Power	(84.9)	26.8	71.4	303.8	1,153.4	716.0	1,179.5	(323.9)	765.6	911.7	737.6	30.6
Chemicals	30.5	96.3	(47.1)	94.9	60.3	88.5	5.4	48.9	24.0	0.9	29.3	0.8
Transport	104.6	18.7	44.1	2.7	6.2	166.8	163.5	56.9	(1.5)	(93.6)	34.8	(0.7)
Communication (IT&Telecom)	(312.6)	(381.7)	434.2	62.2	241.4	(49.2)	113.5	(55.7)	664.0	117.1	118.9	10.6
Others	282.2	873.8	375.2	(103.4)	121.3	1,071.2	375.7	739.2	457.4	247.4	226.6	(18.6)
Total	820.7	1,456.4	1,698.6	1,033.8	2,392.9	2,406.6	2,780.3	1,362.4	2,597.5	1,820.5	1,867.8	58.9

FIGURE 7 SECTORWISE FDI IN \$MILLIONS



	Inflows	% Of
Year	(USD)	GDP
2020	2.06 B	0.69
2019	2.23 B	0.7
2018	1.74 B	0.49
2017	2.50 B	0.74
2016	2.58 B	0.82
2015	1.67 B	0.62
2014	1.89 B	0.77
2013	1.33 B	0.58
2012	0.86 B	0.38
2011	1.33 B	0.62
2010	2.02 B	1.14
2009	2.34 B	1.39
2008	5.44 B	3.2
2007	5.59 B	3.67
2006	4.27 B	3.11
2005	2.20 B	1.83
2004	1.12 B	1.04
2003	0.53 B	0.58
2002	0.83 B	1.03
2001	0.38 B	0.48
2000	0.31 B	0.38



Chapter 3 : Special Economic Zone

SEZ are regions or areas within a country which are subjected to different economic regualtions than the other regions such as tax incentives and low tariffs, to facilate rapid economic growth. This economic growth is accomplished by leveraging tax incentives as a way of attracting foreign dollars and technological advancement.^{xiii}

The 1960s and 1970s saw a substantial increase in the creation of free trade zones as a result of expanding global specialization, multinational businesses moving their manufacturing overseas, and host governments shifting their focus from imports to exports.

SEZ In Emerging Countries

In this regard, China is home to one of the SEZs' most astounding success tales. It took longer than India for the nation to implement the free zone policy, and it didn't accept the idea of SEZs until the late 1970s. In 1980, China built the first wave of SEZs. SEZs have since had tremendous success and have become a key factor in China's exports and economy.

As the example above show, China has, over the past forty years, become the secondlargest economy in the planet. Importantly, overall objective of "reform and opening up", highlighting the significance of zones, specifically by observing the pratical results of Southeastern area, helped bring 800 million people or so out of extreme poverty since 1979^{xiv}.

The first SEZ was formed in late 1950s at Shannon Airpot in Cleare, Ireland.



The study shows that on average SEZs tend to attract 7 to 8 times more FDI than any other domestic industrial cluster.

As a result, SEZs have become more and more popular during the past twenty years. For instance, In 1986 there have been 176 SEZs spread over 47 nations, but the International Labor Office estimated that there were 35,00 SEZs in 130 countries in 2006. In addition, the World Bank estimated that there were approximately 43,00 SEZs^{xv} worldwide in 2017 based on several research.

Over 1000 SEZs were established in the previous five years, according to the United Nations Conference on Trade and Development (UNCTAD), which estimates that there are approximately close to 5400 SEZs. At least 500 additional zones, or around 10% of the current amount, have been announced and are scheduled to launch in the next years.

Special Economic Zones in Pakistan

To encourage FDI in Pakistan , the first export processing zone⁷ was established in 1989 in the metropolitan city Karachi, later EPZs were established in other parts of region however they were insufficient to meet the desired goals of investment and country's developement. The "Single Window" of the EPZ Authority (EPZA), which simplifies import and export authorizations as well as tax and duty payments, is accessible to investors through EPZs which includes waivers on materials, hardware, and equipment, as well as limitless loss carry-forward (including components, spare parts, and packaging

⁷ Export processing zones are industrial zones where raw material can be imported and finished products are made to export in the world market



material). Pakistan experienced the need of SEZ but till then none of the SEZ has been established. In 2012 the Special Economic Zone Act was passed by the parliament and subsequent changes were made in 2016 to make it more business friendly explaining the fiscal and non-fiscal policies by the Govt. Of Pakistan and describing the roles and responsibilities of different governing bodies.

Fiscal Incentives:

For Developers • Imported equipment for the creation, maintenance, and operation of the SEZ is once-only free from all customs charges and taxes. For a period of five years beginning on the day the Development Agreement was signed, all taxes on income accruable in connection with the creation and maintenance of the SEZ are exempt.

For Zone Enterprises - The importation of equipment into the SEZ for installation is free once from all customs charges and taxes. Units that begin production by June 30, 2020 will be exempt from all income taxes for 10 years, while those that begin production after June 30, 2020 will be exempt for five years.

Non-Fiscal Incentives:

Mainly targets the infrastructure/compensation to the companies operating in the zones





FIGURE 8 SEZ APPROVAL TIMELINE



FIGURE 9 SEZ APPROVAL FLOWCHART



Historically, Pakistan had SEZs with enough infrastructure in practically every district. Offering different incentives for both domestic and foreign investment . For instance, Punjab, the province with the highest population, is home to almost twenty SEZs.

Balochistan, Khyber-Pakhtunkhwa (KP), and Sindh also established multiple SEZs. Among the aforementioned, some of these zones were successful in terms of the establishment of an industry and the production of capital and jobs. There are also unsuccessful cases too. For instance, Peshawar, the provincial capital of KP and a significant metropolitan hub from a commercial standpoint, is around 70 km away from the Rashakai Economic Zone. The Khairpur Economic Zone was constructed similarly, but around 30 kilometers outside of Khairpur city. Additionally, various industrial clusters are located in certain major Pakistani cities.

Due to their increased strength, (small industrial units that are not a part of a SEZ) in the availability of raw materials, a trained labor population, enabling institutions, and longstanding ties to regional and international supply networks. For example, these clusters include the Sialkot sports and surgical clusters, the Faisalabad textiles cluster, Gujarat's fan cluster and Gujranwala's engineering cluster are both located in Punjab at a great distance.

In Pakistan, parks (specialized industrial units that aren't officially part of a SEZ) which include Lahore's Marble City, Rachna Industrial Park, and Textile City (Port Qasim, Karachi). Lahore and Karachi are two major cities which have these industrial units but they are distant apart from eachother, Newly constructed industrial estates have M-3 Industrial City (Sheikhupura-Faisalabad Expressway), and Quaid-i-Azam Clothing Park (M-2 Lahore).



Pakistan has established 24 SEZs till now, all prospective investors in SEZs are given access to a variety of benefits, such as a ten-year tax break, a one-time exemption from import taxes on machinery and plant supplies, and simplified utility connections. Although Pakistan's SEZs provide significant financial, investor service, and infrastructure benefits to lower the cost of doing business, they have had trouble luring investment due to a lack of essential infrastructure. All of the specified SEZs are open to any enterprise, domestic or foreign, even though none of them are fully built. The characteristics of each Economic Zone are given below:

List of SEZs in Pakistan

- 1. Rashakai Special Economic Zone:
 - Processing and Manufacturing
 - Home Appliances
 - Pharmaceuticals
 - Home Building Materials
 - Automobiles and Parts
 - Agriculture and Horiculture
 - Wholesale Market/Speciality Mills
- 2. Dhabeji Special Economic Zone:
 - Light Engineering
 - Automotive and Auto parts
 - Chemical and Pharmaceuticals
 - Consumer Electronics Engineering
 - Textile and Garments
 - Steel Foundaries
 - Warehousing
 - Building Material



- 3. Allama Iqbal Industrial City:
 - Automobiles
 - Packaging
 - Building Material
- 4. Bostan Special Economic Zone:
 - Fruit Processing
 - Agriculture machinery
 - Pharmaceutical
 - Motor Bikes Assembly
 - Chromite
 - Ceramic industries
 - Ice and Cold storage
 - Electric Appliance
 - Halal Food Industry
- 5. Bin Qasim Industrial Park:
 - General Engineering
 - Automobiles & Allied
 - Foundry and Fabrication
 - Logistics & Storage
 - Mixed Used

6. HUB SEZ:

- Garments
- Food & Confectionary Industries
- Chemical Industries
- Ductile indsutries
- Paper Manufacturing
- Printing & Packaging
- Ceramics
- Marble Processing
- Biotechnology, Concrete manufacturing
- Mineral Grinding



- 7. Korangi Creek industrial:
 - General Engineering
 - Food Industries
 - Consumer Food & Pharmaceutical Products
 - Garments / Value added Textiles
 - Packaging & Printing & Warehousing/Logistics
 - Commercial and Business Centers,
 - Information Technology
 - Gems & Jewelry
- 8. Quaid-E-Azam Business Park:
 - Textile and Apparel related industries
- 9. Naushero Feroz Industrial Park:
 - Agro Food Processing
 - Agro Non Food Processing
 - Light Engineering
 - Mixed Used
- 10. Hattar Special Economic Zone:
 - Food and beverage
 - Agro-processing
 - Textile
 - Crockery
 - Paper printing
 - Chemical
 - Cement
 - Engineering
- 11. M3 Industrial City:
 - Engineering
 - Textiles
 - Electrical & Electronic
 - Chemical & Paints



- Food Processing
- Pharmaceuticals
- Automobiles
- Packaging and Building Material
- 12. Rachna Industrial Park:
 - Auto Parts
 - Leather Products
 - Packaging and Food Processing units
 - Mixed Used
- 13. Bhalwal SEZ:
 - Citrus Processing Industry
 - Frozen Concentrated Juice Industry
 - Pharmaceuticals
 - Seed & Crops Unit
 - Packaging Industry
 - Storage Industry
 - Paper Industry
 - Flour Mills
 - Plastic Products
 - Footwear
 - Textile
 - Warehouse
- 14. Vehari Industrial Estate:
 - Handicrafts
 - Chemical Industry
 - Ginning Mills
 - Agro Based Industry
 - Shoe Industry
 - Pesticides
 - Pharmaceuticals
 - Packaging Industry
 - Storage Industry



- Paper Industry
- Flour Mills
- Plastic Products
- Textile
- Cold Storage
- Warehouse

15. Rahim yar khan SEZ:

- Oil Mills
- Chemical Industry
- Ginning Mills
- MDF Production
- Wood Plastic Composite Production
- Pesticides
- Polypropylene Woven Bags
- Pharmaceutical
- Packaging Industry
- Storage Industry
- Paper Industry
- Flour Mills
- Plastic Products
- Textile
- Cold Storage
- Warehouse

16. Value Addition City, Special Economic Zone:

- Textiles
- Engineering
- Electrical & Electronic
- Chemical & Paints
- Food Processing
- Pharmaceuticals
- Automobiles
- Packaging and Building Material



- 17. Oil Village SEZ:
 - Storage for Oil Marketing Companies
- 18. khairpur SEZ:
 - Agro Food Processing
 - non-food processing
 - Light Engineering & Manufaturing
- 19. National science and technology SEZ:
- 20. JW-SEZ China Pakistan SEZ
- 21. Service Long March Tyres SEZ:
 - Light Engineering and Manufacturing
- 22. Karachi Export Processing Zone:
 - Hi-Tech Industry
 - Gem & Jewelry
 - Software Houses
 - Information Technology Based Industries
 - Precession Engineering

23. Risalpur Export Processing Zone:

- Industrial Design Companies
- 24. Sialkot Export Processing Zone:
 - Surgical
 - Sports
 - Leather Goods

Opportunities Offered

To build a strong basis for economic recovery and rebirth, Pakistan needs a robust

industrial sector. SEZs will offer realistic options for expanding industrialization.



Pakistan is expected to have a preferred standpoint in the global and regional economies due to its superior manufacturing and export centers. While the CPEC⁸ can be considered will improve infrastructure and finance in Pakistan and China's western region. Industrialization and economic activity would be beneficial for both the nation under the proposed SEZ.

The envisioned Special Economic Regions were indeed provide a solid economic incentive for Pakistani authorities to adopt changes to improve the national business atmosphere, legislating actions, economic output, export base, and marketing attractiveness for additional foreign investments. Additionally, a renewed sector will presumably create jobs for the enormous inhabitants.

Second, SEZs provide a chance to draw the Pakistan population with their talents, expertise, and their amassed wealth for the nation's more lucrative opportunities. The SEZs may help businesses group together and benefit from external economies, which will provide them the chance to advance local sectors up the learning curve.

Thirdly, prospects for increased trade are likely to encourage both governments to enhance their bilateral trade agreements. Additionally, within SEZs, Pakistani businesses will receive the most recent business and trade tactics from international organizations, competing with or complementing foreign businesses. Additionally, Special Economic Zones can give businesses a platform to take advantage of opportunities that are blatantly disregarded by the Pakistani government, given that most multinational

⁸ CPEC: China Pakistan Economic Corridor


corporations organize their production and trade along increasingly complicated global value and supply chains and are, as a result, searching for the least expensive locations.

Additionally, the SEZs offer provides the ability to manage labor pooling, reducing the cost of search lowering the skilled labor shortage. Additionally, when working in a SEZ, there may be a good chance of encouraging novel thoughts that can be shared between businesses and corporations.



Chapter 4: Methodology

ArcGIS Pro:

Esri created and maintains the ArcGIS family of geographic information system (GIS) services, client software, and server software. The more up-to-date version of ArcGIS Desktop is the 64-bit GIS program ArcGIS Pro. The ArcCatalog and ArcMap features are accessed through the same program, most frequently through the Catalog window, unlike ArcGIS Desktop.

The software can read multiple file format data including the graphical images such as (.jpg,.TIF etc), each graphical images contains information which is stored in the attribute table but to access attribute table first the images have to be converted into a raster layer⁹.

For the most important part of the work to be analyzed, the first thing was to take the geographical map of Pakistan and mark the special economic zones which are assigned by the government. This was done on the software ArcGIS Pro by creating a shape file¹⁰.

⁹ One or more raster bands—also known as single band and multi band rasters—make up a raster layer. A value matrix is represented by one band. A raster made up of red, blue, and green bars is a color image (like an aerial shot).

¹⁰ The position, shape, and characteristics of geographic features are stored in a shapefile, an Esri vector data storage format. It has one feature class and is saved as a group of linked files.





FIGURE 10 PAKISTAN SHAPE FILE





FIGURE 11 SEZ PLOTTED ON ARCGIS PRO

For CO2

The CO2 data have been available on NASA-Earth Science data^{xvi} website for specific regions and different time frames. The important thing was to convert the data in a format which could be read by the software ArcGIS Pro, that was accomplished by making it a raster layer and then raster to point feature in the toolbox, In the output



feature class¹¹, a point will be produced for each cell of the input raster dataset. The centers of the points' corresponding cells will be where they are placed, was plotted on the same layer (i.e Pakistan Special Zones). The data has been divided into two time frames 2010 to 2014 and 2014 to 2017. The dataset from GEO-DISC is now corresponding to as a point and for each region it was divided into equal sized squares and at the centre of each square is the mean value of that particular region as can be seen in the image below.



FIGURE 12 SQUARE IMAGE DISPLAYING MEAN POINT

¹¹ A group of features having the same geometry, such as a point, line, polygon, or annotation, is referred to as a feature class. A feature class can be stored as a stand-alone feature class in a geodatabase or alongside other feature classes in a feature dataset in a geodatabase.





FIGURE 13 CO2 EMISSIONS FROM 2010-14





FIGURE 14 CO2 EMISSIONS FROM 2010-14 PLOTTED ON ARCGIS PRO





FIGURE 15 CO2 EMISSIONS FROM 2014-17





FIGURE 16 CO2 EMISSIONS FROM 2014-17 PLOTTED ON ARCGIS PRO

12

In total 31 observations have been taken into account whether they are in the SEZ or outside the SEZ. All this data would be helpful for the next step of our regression analysis.

¹² Red spots refer to the Special Economic Zones while the blue ones are points where CO2 data have been calculated.



During the time span from 2010-2017, the amount of CO2 emission have been

calculated in the whole region of Pakistan and can be seen in the bar diagram below:



As we can observe there are certain regions where CO2 emissions have increased alot while in some it is increase only a tiny fraction. The lowest value of CO2 emission can be seen as 389.3229(ppm¹³) in year 2010 while the highest can be observed as 407.1651 (ppm) in the year 2017. According to a statistical analysis of global energy, Pakistan emits 189.2 Mt of CO2Es, or 0.6% of the world total, which is very low compared to

¹³ Ppm= parts per millions, Carbon dioxide is released when humans use fossil fuels like coal and gasoline.

This figure indicates the amount of carbon dioxide in one million parts of air. Therefore, if carbon dioxide is 416 parts per million (ppm), there are 416 particles of carbon dioxide in every million air particles.



China's share of 27.6% but greater than Asian-Pacific nations. According to the Annual Greenhouse Index the CO2 has alone contributed 60% which has increased 45% from 1990-2019^{xvii}.

For CO

The same shape file of pakistan which was created before was taken into account and all the steps were the same, the only difference here would be the data set.



FIGURE 17 CO DATA PLOTTED ON ARCGIS PRO

In total the number of observations here were 331 and the observations are divided into group of squares and at the centre of each square is the mean value of that region.



Regression Analysis

Finding the variables that have an effect on an interest issue can be done with accuracy using regression analysis^{xviii}. You can confidently establish which elements are most important, which ones can be ignored, and how these factors interact when you do a regression. The following concepts must be understood in order to completely comprehend regression analysis:

Dependent Variable: This is the fundamental element that you're attempting to comprehend or anticipate.

Independent Variable: You assume that each of them might have an effect on your dependent variable.

For data management, visualization, statistics, and automated reporting, Stata is a general-purpose statistical software program created by StataCorp. Researchers from a variety of disciplines, including biology, epidemiology, sociology, and science, use it. In the thesis work Stata is used to run the regression analysis to find the link between Special Economic Zones and CO2 and CO.

The commands have been given below which have been executed.

- Import = import excel reads worksheets from Microsoft Excel (.xls and .xlsx) files.
- Summarize = summarize calculates and displays a variety of univariate summary statistics
- Generate= generate creates a new variable
- Append = combines two datasets



- Drop= drop eliminates variables or observations from the data in memory
- Replace= replace can be used to change just one value, as well as to make sweeping changes to our data
- Regress= to perform the regression analysis specifying the dependent and independent variables
- Hist= graphically represents a histogram of the variable name

For CO2

📔 Do	-file Editor - regress		_		\times
File	Edit View Language Project Tools				
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reg	ress ×				-
1	<pre>import excel "D:\Thesis\SEZ.xlsx", sheet("C02=2010-14")</pre>				
2	cd D:\Thesis				
3	dir				
4	<pre>import excel "D:\Thesis\SEZ.xlsx", sheet("CO2=2010-14")</pre>				
5	summarize				
6	rename yes SEZ				
7	gen pass=1 if SEZ=yes				
8	gen pass=1 1f SEZ=yes				
9	clear all				
10	import excel D:\inesis\SE2.xisx , sneet(CO2=2010-14) firstrow				
12	gen pass=1 if SEZ_IK=0				
12	describe				
11	regress (02 nass				
15	replace pass=0 if SE7 1==1				
16	drop pass				
17	regress CO2 SE7 1				
18	save "D:\Thesis\regress10-14.dta"				
19	<pre>import excel "D:\Thesis\SEZ.xlsx", sheet("C02=2014-18") firstrow clear</pre>				
20	regress CO2 SEZ 1				
21	append using regress10-14				
22	replace x=x_axis if x==.				
23	replace y=y_axis if y==.				
24	generate time=1 in 32/62				
25	replace time=2 in 1/31				
26	drop x_axis y_axis				
27	gen post=1 if time=2				
28	replace post=0 if time==1				
29	gen internaction=post * SEZ_1				
30	regress CU2 post SEZ_1 internaction				
31	regress CU2 post SEZ_1				
32	hist (02 if post0				
33	hist CO2 if post1				
35	gen ln(02-ln(02)				
36	regress ln(02 x v nost SE7 1				
37	xtset nointid nost				
38	sort pointid post				
39	bysort pointid:generate diff=CO2 - CO2[n-1]				
40	regress diff SEZ 1				
41	save "D:\Thesis\regress10-18.dta"				
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FIGURE 18 DO-FILE FOR STATA



The command regress **CO2¹⁴ post SEZ_1¹⁵** would work in a way in which CO2 is our dependent variable while the others will be independent

The equation would be as below:

 $CO2^{16} = \beta_0^{17} + \beta_1 \text{ post} + \beta_2 \text{SEZ}_1 + u$

Where ß1 and ß2 are the two parameters (estimaters) which we will find by running the command while u is the standard error.

¹⁴ Outcome variable

¹⁵ Predictor variable



Results |. regress CO2 SEZ_1 post interraction

 Source	<u>SS</u>	df	MS	Numb	er of obs	=	62
Model	887.664957	3	295.88831	— F(3, L 9 Prob	58) > F	=	792.50 0.0000
Residual	21.654853	58	.37335953	85 R-so	uared	=	0.9762
Total	909.31981	61	14.906882	— Adj 2 1 Root	R-squared MSE	= =	0.9750 .61103
C02	Coef.	Std. Err.	t	P> t	[95% Co	nf. I	[nterval]
SEZ_1	0299499	.4467149	-0.07	0.947	92414	7	.8642472
post	7.503404	.1650286	45.47	0.000	7.17306	3	7.833744
1 to the same set to set	4007571	.5372021	0.75	0.459	674569	R	1,476084
interraction	.400/3/1						

FIGURE 19 REGRESSION ANALYSIS OF CO2

SS= sum of squares, which represent each observation subracted from the mean to the whole square, its an analogy to understand how spread out this data set is:

$$SS = \sum (x_i - \bar{x})^2$$

This shows the variation in our dependent variable.

The df model is represnting is the number of independent variable we used, out of our model SS 887.664957:

$$R^2 = 887.664957/909.31981 = 0.976$$

Which shows that 97.6% of the variation of R^2 in our dependent variable is due to the x variable, so the remaining 2.4% is going unexplained in our residual.

The total degree of freedom is given as:

```
df total = total number of observation - 1
```

The MS (mean square) is the sum of squares divided by the total degree of freedoms.



Adjusted R-squared depends on the degree of freedom as more and more variables are introduced to the system, R² will only increase;

Adjusted R - squared =
$$1 - (1 - R2)\frac{(n-1)}{(n-k-1)}$$

Where,

n= number of observations

k= number of variables

as k increases the adjusted R² will decrease, it represents the power in our model.

F-test statistics is conducted to understand whether we can reject the null hypothesis or not. The prob>F is 0.000% which means we can reject the null hypothesis at 95% confidence interval.

The null hypothesis:

H_o: ß1= ß2= ß3=0

Interpretation of CO2 Coefficients

 $CO2 = _cons + \beta I(SEZ_1) + \beta 2(post) + \beta 3(interraction)$

For every additional SEZ, the expected amount of CO2 will decrease by -0.0299 on average , holding all other variables constant.

For CO2 data on the preceeding year 2014-17 (post) , the expected number of CO2 increases by 7.50 on average, holding all other variables constant.

For every SEZ established by the time in which CO2 data was extracted (interraction), the amount of CO2 increases 0.4000 on average, holding all other variables constant.



For t-distribution and P-test¹⁸:

If the null hypothesis is true (ß1=0), the chances of us getting a sample extreme as we did (ß1=-0.0299) would be P>|t|= 94.7% for SEZ_1, which means that we cannot reject the null hypothesis hence coefficient of SEZ_1 is not related to the amount of CO2

Similarly, If the null hypothesis is true ($\beta 2=0$), the chances of us getting a sample extreme as we did ($\beta 2=7.50$) would be P>|t|= 0.0% for post, which shows that we can reject the null hypothesis. Also, this shows us that comparing the two set of years before and after the formation of Special Economic Zone, the amount of CO2 has increased hence $\beta 2 \neq 0$.

If the null hypothesis is true (β 3=0), the chances of us getting a sample extreme as we did (β 3=-0.4000) would be P>|t|= 45.9% for interraction. However the probability is not higher nor alot lower so we can say that we can reject the null hypothesis and the coefficient of interraction do effect the amount of CO2.

95% Confidence Interval

The last two columns are looking at the coefficients of each independent variable and it creates a 95% CI around the coefficient that the value is somewhere in between:

For SEZ_1 the value of coefficient is somewhere in between -0.924147 to
 0.8642472 and since our P-test shows that this coefficient doesnot have impact on CO2 which means the value can be zero which we can see from this table that zero is included in the range.

¹⁸ P-test in regression analysis is two tailed test



- For Post the value of coefficient is somewhere in between 7.173 to 7.833 and as our P-test has already shown that this coefficient cannot be zero which we can see that zero is not included in this range.
- For Interraction the value of coefficient is somewhere in between -0.674 to 1.476 and as our P-test has already shown that this value can be zero or non zero as the probability is 45.9%



FIGURE 20 HISTOGRAM CO2

As our histogram is skewed to the right, we generate log of our dependent variable to make it more normal and the results are as follows:



. regress lnCO2 x y post SEZ_1

Source	SS	df	MS	Num	ber of obs	=	62
Model Residual	.005641298 .000128629	4 57	.00141032 2.2567e-0	- F(4) 5 Prol	, 57) b > F quared	= = =	0.0000 0.9777
Total	.005769928	61	.00009458	– Adj 9 Roo [.]	R-squared t MSE	=	0.9761 .0015
lnCO2	Coef.	Std. Err.	t	P> t	[95% Co	onf.	Interval]
x y post SEZ_1 _cons	0000816 .0001342 .0189874 .0007234 _ 5.975878	.000056 .0000654 .0003861 .0006124 .0030837	-1.46 2.05 49.17 1.18 1937.91	0.151 0.045 0.000 0.242 0.000	000193 3.31e-0 .018214 000502 5.96970	38 96 12 29 93	.0000307 .0002652 .0197607 .0019498 5.982053

FIGURE 21 REGRESSION ANALYSIS OF LNCO2

$$lnCO2 = \beta o + \beta 1(x) + \beta 2(y) + \beta 3(post) + \beta 4(SEZ_1)$$

Interpretation of lnCO₂

By taking log of CO2, we can see that our R² value increased a bit which comprehends that 97.7% variation in our dependent variable is due to the independent variables

Coefficients

By increase in X, if we are are moving on x-axis, keeping all other variables constant , the amount of InCO2 will decrease -0.0000816 by average.

By increase in Y, y-axis, keeping all other variables constant , the amount of InCO2 will increase 0.0001342 on average keeping all other variables constant.

By increase in post (the data from 2014-17), the amount of InCO2 will increase 0.01898 by average, keeping all other variables constant.



By increase in SEZ_1 (if there is a special economic zone), the amount of InCO2 will be increased 0.0007234 by average , keeping all other variables constant.

Standard Error:

The standard error is used to calculate the t-value:

$$t = \frac{Coefficient}{Standard\ Error}$$

For t-distribution and P-test:

Again as before the results from P-test tested on t-distribution will be discussed below, first we have to check the null hypothesis.

The null hypothesis:

If the null hypothesis is true ($\beta_1=0$), the chances of us getting a sample extreme as we did ($\beta_1=-0.0000816$) would be P>|t|= 15.1% for x, which means that we cannot reject the null hypothesis but the coefficient of x doesn't have great significance on InCO2.

Similarly, If the null hypothesis is true (ß2=0), the chances of us getting a sample extreme as we did (ß2=0.0001342) would be P>|t|= 4.5% for y, which means we can reject the null hypothesis and the y-axis do have impact on amount of InCO2.

If the null hypothesis is true (β 3=0), the chances of us getting a sample extreme as we did (β 3=0.0189874) would be P>|t|= 0.0% for post, we can reject the null hypothesis and this do have impact on our level of InCO2.



If the null hypothesis is true (B4=0), the chances of us getting a sample extreme as we did (B4=0.0007234) would be P>|t|= 24.2% for SEZ_1, which means we cannot reject the null hypothesis.

95% Confidence Interval

Similarly here again the last two columns are explaning the range of our coefficient value that it can be somewhere in between:

- For x-axis, the value of coefficient would be somewhere in between -0.0001938 to 0.0000307 and as our P-test has already concluded that this value sometimes can have impact on InCO2 and the probability is 15.1% which means the value of coefficient sometimes can be zero or a non-zero.
- For y-axis, the value of coefficient would be somewhere in between 0.00000331 to 0.0002652 and as our P-test has already concluded that this value can't be zero and we can see from these results that zero is not included in this range.
- For Post, the value of coefficient would be somewhere in between 0.0182 to 0.0197 and as our P-test has already concluded that this value won't be zero and we can see from this range also that zero is not a part of this range.
- For SEZ_1, the value of coefficient would be somewhere in between -0.0005029 to 0.001949 and as the P-test has already shown that this value can be zero which we can see that zero is included in this range.



For CO

The commands which were executed are almost the same as before only the data and observations are different. The observations consist of 331 points, so by combining both two time frames (2010-14) and (2014-17), our total observations would be 662.

📔 Do	-file Editor - CO	—	\times
File	Edit View Language Project Tools		
D 菺	$\blacksquare \blacksquare \langle Q \rangle \land $		
CO	×		-
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	<pre>import excel "D:\Thesis\SEZ.xlsx", sheet("CO 2010-14") firstrow summarize SEZ gen pass=1 if SEZ_1<=0 replace pass=0 if pass==. describe regress CO pass replace pass=0 if SEZ_1==1 drop pass regress CO SEZ_1 save "D:\Thesis\regress CO 10-14.dta" import excel "D:\Thesis\SEZ.xlsx", sheet("CO 2014-18") firstrow clear regress CO SEZ_1 append using "D:\Thesis\SEZ.xlsx", sheet("CO 2014-18") firstrow clear regress CO SEZ_1 append using "D:\Thesis\regress CO 10-14.dta" generate time=1 in 332/662 replace time=2 in 1/331 gen post=1 if time==2 replace post=0 if time==1 gen interraction=post * SEZ_1 regress CO post SEZ_1 interraction gen lnCO=ln(CO) regress lnCO x y post SEZ_1 regress diff SEZ_1</pre>		

FIGURE 22 DO-FILE FOR STATA



.0000 .2776 .2743 .0e-05

Results

. regress CO p	oost SEZ_1 int	erraction					
Source	SS	df	MS	Numb	er of obs	=	662
				– F(3,	658)	=	84.29
Model	1.6012e-06	3	5.3373e-0	7 Prob	> F	=	0.0000
Residual	4.1663e-06	658	6.3317e-0	9 R-sq	uared	=	0.2776
				– Adj	R-squared	=	0.2743
Total	5.7674e-06	661	8.7253e-0	9 Root	MSE	=	8.0e-0
CO	Coef.	Std. Err.	t	P> t	[95% Co	nf.	Interval]
post SEZ_1 interraction _cons	0000958 .0000465 .0000697 .0005526	6.29e-06 .0000269 .0000356 4.43e-06	-15.24 1.73 1.95 124.62	0.000 0.084 0.051 0.000	000108 -6.31e-0 -3.28e-0 .000543	1 6 7 9	0000834 .0000993 .0001397 .0005613

FIGURE 23 REGRESSION ANALYSIS OF CO

Interpretation of CO

SS= sum of squares, which reprents each observation subracted from the mean to the whole square, its an analogy to understand how spread out this data set is:

$$SS = \sum (x_i - \bar{x})$$

This shows the variation in our dependent variable.

The total degree of freedom is given as:

$$df$$
 total = total number of observation -1

The number of independent variables are 3 which makes our total degree of freedom

(total observations "662"-1) equal to 661



$CO = \beta \mathfrak{o} + \beta 1(post) + \beta 2(SEZ_1) + \beta 3(interraction)$

In the above regression, CO was taken as the dependent variable while the rest are independent variables. When the command run as we can see the _cons is the ß1 estimator which values as 0.0005526 and the rest are ß2, ß3 and ß4 estimators. By default our null hypothesis is equal to zero.

The column t is calculated on the formula which is as follows:

$$t = \frac{coefficient}{standard\ error}$$

Coefficient:

By post time of CO, if we are are looking on the amount of CO during the year 2014-17, keeping all other variables constant, the amount of CO will decrease -0.0000958 by average.

By increase in SEZ_1, the number of increase in SEZ, keeping all other variables constant , the amount of CO will increase 0.0000465 on average keeping all other variables constant.

By increase in interraction, meaning there is SEZ when the data was collected, the amount of CO will increase 0.0000697 by average, keeping all other variables constant.

For t-distribution and P-test

The null hypothesis:

H_o: ß1= ß2= ß3=0



If the null hypothesis is true (ß1=0), the chances of us getting a sample extreme as we did (ß1=-0.0000958) would be P>|t|= 0.00% for post, which means that we can reject the null hypothesis and the coefficient of post have significance on CO.

Similarly, If the null hypothesis is true (ß2=0), the chances of us getting a sample extreme as we did (ß2=0.0000465) would be P>|t|= 8.4% for SEZ_1, which means we can reject the null hypothesis and the SEZ_1 do have impact on amount of CO.

If the null hypothesis is true (ß3=0), the chances of us getting a sample extreme as we did (ß3=0 .0000697) would be P>|t|= 5.1% for interraction, we can reject the null hypothesis and this do have impact on our level of CO.

95% Confidence Interval

In the last two columns the 95% CI is displaying the range in which our coefficient value could be in between:

- For Post, the vaue of coefficient could be somewhere in between -0.0001081 to -0.0000834 and as our P-test has shown the results that this coefficient can't be zero and we can see that zero is not included in this range.
- For SEZ_1, the value of coefficient could be somewhere in between -0.00000631 to 0.0000993 and as our P-test has shown the results that the coefficient can be zero so thatswhy zero is in this range.
- For Interraction, the value of coefficient could be somewhere in between 0.000000328 to 0.000139 and as our P-test has shown the results that the coefficient can be zero and it is inlcuded in the range.



. regress lnCO x y post SEZ_1

Source	SS	df	MS	Numb	er of obs	=	662
Model Residual	18.8623592 12.704369	4 657	4.71558979 .019336939	Prob R-sq	> F uared	=	0.0000
Total	31.5667281	661	.047756018	Adj Root	R-squared MSE	=	0.5951 .13906
lnCO	Coef.	Std. Err.	t	P> t	[95% Co	nf.	Interval]
x y post SEZ_1 _cons	.0090869 069001 .1511362 .1373475 -6.258587	.0018171 .0030007 .0192474 .0309981 .1145216	5.00 -23.00 7.85 4.43 -54.65	0.000 0.000 0.000 0.000 0.000	.005518 074893 .113342 .076480 -6.4834	8 1 5 2 6	.0126549 0631089 .18893 .1982148 -6.033715

FIGURE 24 REGRESSION ANALYSIS OF LNCO

 $lnCO = \beta o + \beta 1(x) + \beta 2(y) + \beta 3(post) + \beta 4(SEZ_1)$

Interpretation of lnCO

The total number of observations are the same as before which are equal to 662 including both the time spans which our data is divided into. The number of independent variables are 4 . The df model is representing is the number of independent variable we used, out of our model SS 18.86235:

$$R^2 = 18.86235/31.5667281 = 0.5951$$

Which shows that 59.5% of the variation of R^2 in our dependent variable is due to the x variable.



Coefficient

By moving on x-axis, keeping all other variables constant , the amount of InCO will increase by 0.0090869 by average.

By moving on y-axis, keeping all other variables constant , the amount of InCO will decrease by -0.069001 on average keeping all other variables constant.

By increase in post, the amount of InCO will increase 0.1511362 by average, keeping all other variables constant.

By increase in SEZ_1, the amount of InCO will increase 0.1373475 by average, keeping all other variables constant.

For t-distribution and P-test:

The null hypothesis:

If the null hypothesis is true (ß1=0), the chances of us getting a sample as extreme as we did (ß1=0.0090869) would be P>|t|=0% for x-axis, which means we can reject the null hypothesis and moving on x-axis do have an impact on our level of CO.

Similarly if If the null hypothesis is true (B2=0), the chances of us getting a sample as extreme as we did (B2=-0.069001) would be P>|t|=0% for y-axis, which means we can reject the null hypothesis and moving on y-axis do have an impact on our level of CO.

If the null hypothesis is true (ß3=0), the chances of us getting a sample as extreme as we did (ß3=0. 1511362) would be P>|t|=0% for post, which means we can reject the null hypothesis and with the passage of time the amount of CO is affected.



If the null hypothesis is true (B4=0), the chances of us getting a sample as extreme as we did (B4=0.1373475) would be P>|t|=0% for SEZ_1, which means we can reject the null hypothesis and with the presence of SEZ the amount of CO is affected.

95% Confidence Interval

In the last two columns the 95% CI is displaying the range in which our coefficient value could be in between:

- For x, the value of coefficient could be somewhere in between 0.0055188 to 0.0126549 and as our P-test results shows that the coefficient can't be zero hence zero is not in this range.
- For y, the value of coefficient could be somewhere in between -0.074893 to -0.0631089 and as our P-test results shows that the coefficient can't be zero hence zero is not in this range.
- For post, the value of coefficient could be somewhere in between 0.1133425 to 0.18893 and as our P-test results shows that the coefficient can't be zero hence zero is not in this range.
- For SEZ_1, the value of coefficient could be somewhere in between 0.0764802 to 0.1982148 and as our p-test results shows that the coefficient can't be zero hence zero is not in this range.



Conclusion

Foreign direct investment, most of the times have significant impact on the country's economy and many countries make their policies friendly to attract foreign direct investment. In our case Pakistan has established multiple Special Economic Zones to engage foreign companies to invest in pakistan and as our study has shown that thousands of companies have invested in Pakistan which is benefical for both the parties. Our case in which we have to do the analysis that how much environment is affected due to these investments, the results are deduced in which we can see that overall the amount of CO2 is increased in the region but the industries doesn't have much impact due to this increase amount. As the final results of regression analysis clearly shows that some variables do have a significant impact on the amount of CO2 while others don't and in the case of increasing number of Special Economic Zones, the results can be seen as they don't significantly impact on the amount of increased CO2, however the results also shows that if data is collected of a particular region where there was no SEZ and after few years when SEZ is established in that region and then the data results shows that the amount of CO2 is increased in that part however not alot as one can think of. If we go a bit back in the report to the regression part and look at Figure 17, the P-test clearly shows that the coefficient of post (data collected before SEZ and after) resulted in increased CO2. Similarly in the same figure we can also see that SEZ_1 if it is already established in both time frames when the data is collected, the amount of CO2 is not dependent on the SEZ and the P-test also shows that we cannot reject null hypothesis ($\beta = 0$).



Similarly, when the same analysis is conducted on the amount of Carbon Monoxide , the results shows us clearly that the amount of CO is not increasing significantly due to the increasing number of SEZ, also the results can be seen in Figure 21 , in which our interest of variables were post, SEZ and interraction; and the final results on 95% CI shows us that these variables do have impact on the level of CO but not alot.

So, we can conclude that FDI doesnot have much negative potential consequences as presented by **Pollution-halo hypothesis**^{xix}, FDI can contribute to environment sustainability by using environment friendly technologies which takes place due to the transfer of green-efficient technologies specially in the developing countries and as in our case if we conduct research in future again and compare our results we can see that FDI would some how helps to reduce the environmental emission. An interesting perspective that globalization may not be entirely bad for the environment



Appendixes

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0	BJECTID	Shape	pointid	C02	x	у	SEZ	SEZ_1	time	post	interraction	lnCO2	diff	Variables				
1	1	Point	1	393.38462	68.805364	35.648212	ND	0	1	0	0	5.974788		A Filter variab	los horo			
2	1	Point	1	401.34818	68.805364	35.648212	ND	0	2	1	9	5.994829	7.963566	Priter variab	les nere			
3	2	Point	2	393.38462	71.039889	35.648212	NO	0	1	0	0	5.974788		✓ Name	Label	Туре	Format	Value I
4	2	Point	2	401.34818	71.039889	35.648212	NO	0	2	1	0	5.994829	7.963566	OBJECTID	OBJECTID *	byte	%10.0g	
5	3	Point	3	393.25358	73.274415	35.648212	NO	0	1	0	9	5.974454		Shape	Shape *	str5	%9s	
6	3	Point	3	399.76669	73.274415	35.648212	NO	0	2	1	9	5.990881	6.513115	✓ pointid	pointid	byte	%10.0g	
7	4	Point	4	393.31798	75.50894	35.648212	NO	0	1	0	9	5.974618		✓ CO2	CO2	double	%10.0g	
8	4	Point	4	400.58752	75.50894	35.648212	NO	0	2	1	9	5.992932	7.26954	∀ x	х	double	%10.0g	
9	5	Point	5	392.63362	77.743465	35.648212	NO	0	1	0	9	5.972877		. У у	У	double	%10.0g	
10	5	Point	5	399.72355	77.743465	35.648212	NO	0	2	1	9	5.990773	7.089926	SEZ	SEZ	str3	%9s	
11	6	Point	6	393.6597	68.805364	33.413687	NO	0	1	0	9	5.975487		SEZ_1	SEZ_1	byte	%10.0g	
12	6	Point	6	400.48274	68.805364	33.413687	ND	0	2	1	9	5.992671	6.823037	✓ time		float	%9.0g	
13	7	Point	7	393.6597	71.039889	33.413687	YES	1	1	0	9	5.975487		✓ post		float	%9.0g	
14	7	Point	7	400.48274	71.039889	33.413687	YES	1	2	1	1	5.992671	6.823037					
15	8	Point	8	394.02709	73.274415	33.413687	ND	0	1	0	9	5.976419		Variables Snan	shots			
16	8	Point	8	401.86317	73.274415	33.413687	YES	1	2	1	1	5.996112	7.836083	Variabics bilap	311013			
17	9	Point	9	392.89242	75.50894	33.413687	NO	0	1	0	9	5.973536		Properties				
18	9	Point	9	400.4896	75.50894	33.413687	NO	0	2	1	0	5.992688	7.597188	▲ Variables				
19	10	Point	10	391.8865	77.743465	33.413687	NO	0	1	0	0	5.970972		Name		OBJECTID		
20	10	Point	10	398.62969	77.743465	33.413687	NO	0	2	1	9	5.988033	6.74319	Label		OBJECTID *		
21	11	Point	11	393.46504	66.570839	31.179161	NO	0	1	0	9	5.974992		Туре		byte		
22	11	Point	11	400.66264	66.570839	31.179161	NO	0	2	1	9	5.99312	7.197604	Format		%10.0g		
23	12	Point	12	394.01159	68.805364	31.179161	NO	0	1	0	9	5.97638		Value label				
24	12	Point	12	401.60369	68.805364	31.179161	NO	0	2	1	0	5.995466	7.592893	Notes				
25	13	Point	13	394.01159	71.039889	31.179161	ND	0	1	0	0	5.97638		4 Data				
26	13	Point	13	401.60369	71.039889	31.179161	ND	0	2	1	0	5.995466	7.592093	Frame		default		
27	14	Point	14	393.79169	73.274415	31.179161	NO	0	1	0	0	5.975822		Filename		regress10-18.d	ta	
28	14	Point	14	401.75042	73.274415	31.179161	YES	1	2	1	1	5.995831	7.958728	Label				
29	15	Point	15	394.01921	75.50894	31.179161	NO	0	1	0	0	5.9764		Notes				
30	15	Point	15	401.48978	75.50894	31.179161	NO	0	2	1	0	5.995182	7.470569	Variables		13		
31	16	Point	16	393.15447	62.101788	28.944636	NO	0	1	9	9	5.974203		Observations		62		
32	16	Point	16	400.40584	62.101788	28.944636	ND	0	2	1	9	5.992479	7.25137	Size		3.33K		
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	OBJECTID	Shape	pointid	C02	×	У	SEZ	SEZ_1	time	post	interraction	lnCO2	diff	
33	17	Point	17	393.55265	64.336313	28.944636	NO	0	1	0	0	5.975215	100	
14	17	Point	17	400.55485	64.336313	28.944636	NO	0	2	1	9	5.992851	7.0022	
15	18	Point	18	393.2807	66.570839	28.944636	NO	0	1	0	0	5.974524	1.1	
16	18	Point	18	400.64194	66.570839	28.944636	NO	0	2	1	9	5.993068	7.36124	
17	19	Point	19	393.28827	68.805364	28.944636	NO	0	1	0	9	5.974543	100	
8	19	Point	19	401.16337	68.805364	28.944636	NO	Θ	2	1	0	5.994369	7.875099	
9	20	Point	20	393.28827	71.039889	28.944636	No	0	1	0	9	5.974543	1.1	
0	20	Point	20	401.16337	71.039889	28.944636	NO	0	2	1	0	5.994369	7.875899	
1	21	Point	21	393.08425	73.274415	28.944636	NO	0	1	0	9	5.974024	1.1	
2	21	Point	21	401.23013	73.274415	28.944636	NO	0	2	1	0	5.994535	8.145875	
3	22	Point	22	392.93839	62.101788	26.710111	NO	0	1	0	0	5.973653	1.1	
4	22	Point	22	400.84316	62.101788	26.710111	NO	0	2	1	9	5.99357	7.984772	
5	23	Point	23	392.82375	64.336313	26.710111	NO	0	1	0	0	5.973361	1.1	
6	23	Point	23	400.2729	64.336313	26.710111	NO	0	2	1	9	5.992146	7.449145	
7	24	Point	24	392.99056	66.570839	26.710111	NO	0	1	0	9	5.973785	100	
8	24	Point	24	400.84324	66.570839	26.710111	NO	0	2	1	0	5.99357	7.85268	
9	25	Point	25	392.96189	68.805364	26.710111	no	0	1	0	9	5.973712	100	
0	25	Point	25	401.08701	68.805364	26.710111	YES	1	2	1	1	5.994178	8.125119	
1	26	Point	26	392.96189	71.039889	26.710111	NO	0	1	0	0	5.973712	100	
2	26	Point	26	401.08701	71.039889	26.710111	NO	0	2	1	9	5.994178	8.125119	
3	27	Point	27	392.66278	62.101788	24.475585	NO	0	1	0	0	5.972951	1.1	
4	27	Point	27	400.46127	62.101788	24.475585	NO	0	2	1	9	5.992617	7.798493	
5	28	Point	28	392.56401	64.336313	24.475585	NO	0	1	0	0	5.9727	1.11	
6	28	Point	28	401.0264	64.336313	24.475585	NO	Θ	2	1	0	5.994027	8.462392	
7	29	Point	29	392.6486	66.570839	24.475585	YES	1	1	0	9	5.972915		
8	29	Point	29	400.10822	66.570839	24.475585	YES	1	2	1	1	5.991735	7.459619	
9	30	Point	30	392.52389	68.805364	24.475585	NO	0	1	0	9	5.972598		
9	30	Point	30	400.22283	68.805364	24.475585	NO	0	2	1	9	5.992022	7.698948	
1	31	Point	31	392.52389	71.039889	24.475585	NO	0	1	0	0	5.972598	1.1	
2	31	Point	31	400.22283	71.039889	24.475585	NO	0	2	1	9	5.992022	7.698948	

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33	17	Point	17	.00027	76.380186	36.340554	NO	0	2	1	. 0	-8.217089		Silter	rariabler bere			
34	17	Point	17	.000273	76.380186	36.340554	NO	0	2	1	. 0	-8.206038	3.00e-06		i i			
35	18	Point	18	.000307	71.30618	35.776775	NO	0	2	1	. 0	-8.088663		Name	Label	Туре	Format	Value I
36	18	Point	18	.000305	71.30618	35.776775	NO	0	2	1	0	-8.095199	-2.00e-06	☑ OBJECTI	D OBJECTID *	int	%10.0g	
37	19	Point	19	.000325	71.869958	35.776775	NO	0	2	1	0	-8.031686		Shape	Shape *	str5	%9s	
38	19	Point	19	.000322	71.869958	35.776775	NO	0	2	1	0	-8.040959	-3.00e-06	✓ pointid	pointid	int	%10.0g	
39	20	Point	20	.000301	72.433737	35.776775	NO	0	2	1	0	-8.1084	100 C	CO 🕅	CO	double	%10.0g	
40	20	Point	20	.000304	72.433737	35.776775	NO	0	2	1	0	-8.098483	3.00e-06	💌 х	×	double	%10.0g	
41	21	Point	21	.0003	72.997515	35.776775	NO	0	2	1	0	-8.111728	1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A	🗹 у	У	double	%10.0g	
42	21	Point	21	.000302	72.997515	35.776775	NO	0	2	1	0	-8.105083	2.00e-06	SEZ SEZ	SEZ	str3	%9s	
43	22	Point	22	.000325	73.561294	35.776775	NO	0	2	1	. 0	-8.031686		SEZ_1	SEZ_1	byte	%10.0g	
44	22	Point	22	.000323	73.561294	35.776775	NO	0	2	1	0	-8.037858	-2.00e-06	✓ time		float	%9.0g	
45	23	Point	23	.000325	74.125072	35.776775	NO	0	2	1	0	-8.031686		✓ post		float	%9.0g	
46	23	Point	23	.000327	74.125072	35.776775	NO	0	2	1	. 0	-8.025551	2.00e-06					
47	24	Point	24	.000293	74.688851	35.776775	NO	0	2	1	. 0	-8.135338	1 A A A A A A A A A A A A A A A A A A A	Variables	Snanshots			
48	24	Point	24	.000296	74.688851	35.776775	NO	0	2	1		-8.125151	3.00e-06	Vanabies	onaponoto			
49	25	Point	25	.000296	75.252629	35.776775	NO	0	2	1	. 0	-8.125151		Properties				
50	25	Point	25	.000293	75.252629	35.776775	NO	0	2	1	. 0	-8.135338	-3.00e-06	✓ Variable	5			
51	26	Point	26	.000265	75.816408	35.776775	NO	0	2	1	. 0	-8.235781		Name				
52	26	Point	26	.000267	75.816408	35.776775	NO	0	2	1	. 0	-8.228262	2.00e-06	Label				
53	27	Point	27	.000253	76.380186	35.776775	NO	0	2	1	. 0	-8.282121		Туре				
54	27	Point	27	.00025	76.380186	35.776775	NO	0	2	1	. 0	-8.294849	-3.00e-06	Format				
55	28	Point	28	.000242	76.943965	35.776775	NO	0	2	1	. 0	-8.326572		Value lat	el			
56	28	Point	28	.000245	76.943965	35.776775	NO	0	2	1		-8.314252	3.00e-06	Notes				
57	29	Point	29	.008437	71.30618	35.212997	NO	0	2	1		-7.735578		4 Data				
58	29	Point	29	.000435	71.30618	35.212997	NO	0	2	1	0	-7.740165	-2.00e-06	Frame		default		
59	30	Point	30	.00045	71.869958	35.212997	NO	0	2	1	9	-7.706263		Filename		regress CO 10-	18.dta	
60	30	Point	30	.008452	71.869958	35.212997	NO	0	2	1	0	-7.701828	2.00e-06	Label				
61	31	Point	31	.000425	72.433737	35.212997	NO	0	2	1	0	-7.763422		Notes				
62	31	Point	31	.008427	72.433737	35.212997	NO	0	2	1	0	-7.758727	2.00e-06	Variable		13		
63	32	Point	32	.000392	72.997515	35.212997	NO	0	2	1	0	-7.844249		Observa	ions	662		
64	32	Point	32	.000395	72.997515	35.212997	NO	0	2	1	0	-7.836625	3.00e-06	Size		37.50K		
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	OBJ	ECTID(1)		1														
	OBJECTID	Shape	pointid	CO	×	у	SEZ	SEZ_1	time	post	interraction	lnCO	diff	Variables				
66	33	Point	33	.000327	73.561294	35.212997	NO	0	2	1	0	-8.025551	-3.00e-06	Filter varia	bles here			
67	34	Point	34	.000321	74.125072	35.212997	NO	0	2	1	0	-8.044069	•	Name	Label	Type	Format	Value
68	34	Point	34	.000324	74.125072	35.212997	NO	0	2	1	0	-8.034767	3.00e-06		ORIECTID	int	N 10.0a	value
69	35	Point	35	.000309	74.688851	35.212997	NO	0	2	1	0	-8.08217	•	Contraction of the second	Charae &		%10.0g	
70	35	Point	35	.000306	74.688851	35.212997	NO	0	2	1	0	-8.091926	-3.00e-06	Shape	Snape *	sub	7695	
71	36	Point	36	.000306	75.252629	35.212997	NO	0	2	1	0	-8.091926		Pointia P	pointid	int	%10.0g	
72	36	Point	36	.000309	75.252629	35.212997	NO	0	2	1	0	-8.08217	3.000-06	M CO	0	double	%10.0g	
73	37	Point	37	.000304	75.816408	35.212997	NO	0	2	1	0	-8.098483	•	✓ ×	x	double	%10.0g	
74	37	Point	37	.000301	75.816408	35.212997	NO	0	2	1	0	-8.1084	-3.00e-06	🖉 у	У	double	%10.0g	
75	38	Point	38	.000305	76.380186	35.212997	NO	0	2	1	0	-8.095199		SEZ	SEZ	str3	%9s	
76	38	Point	38	.000308	76.380186	35.212997	NO	0	2	1	0	-8.085411	3.00e-06	SEZ_1	SEZ_1	byte	%10.0g	
77	39	Point	39	.000272	76.943965	35.212997	NO	0	2	1	0	-8.209708		✓ time		float	%9.0g	
78	39	Point	39	.000275	76.943965	35.212997	NO	0	2	1	0	-8.198739	3.00e-06	✓ post		float	%9.0g	
79	40	Point	40	.000512	71.30618	34.649218	NO	0	2	1		-7.577186	•					1
80	40	Point	40	.00051	71.30618	34.649218	NO	0	2	1	0	-7.5811	-2.00e-06	Variables Sna	pshots			
81	41	Point	41	.000533	71.869958	34.649218	NO	0	2	1	0	-7.536989		Properties				
82	41	Point	41	.000531	71.869958	34.649218	NO	0	2	1	0	-7.548749	-2.00e-06	rioperdes				
83	42	Point	42	.000507	72.433737	34.649218	NO	0	2	1	0	-7.586999		* Variables				
84	42	Point	42	.008509	/2.433/3/	34.649218	NO	0	2	1	0	-7.583063	2.00e-06	Name				
85	43	Point	43	.000461	72.997515	34.649218	NO	0	2	1	0	-7.682113	•	Label				
86	43	Point	43	.000464	72.997515	34.649218	NO	0	2	1	0	-7.675626	3.00e-06	lype				
87	44	Point	44	.008413	73.561294	34.649218	NO	0	2	1	0	-7.792063	•	Format				
88	44	Point	44	.000409	73.561294	34.649218	NO	0	2	1	0	-7.801795	-4.00e-05	Value label				
89	45	Point	45	.000394	74.125072	34.649218	NO	0	2	1	0	-7.839159	•	Notes				
90	45	Point	45	.000397	74.125072	34.649218	NO	0	2	1	0	-7.831574	3.00e-06	A Data				
91	46	Point	46	.000345	74.688851	34.649218	NO	0	2	1	0	-7.971966	•	Frame		default		
92	46	Point	46	.000347	74.688851	34.649218	NO	0	2	1	0	-7.966186	2.00e-06	▶ Filename		regress CO 10-	18.dta	
93	47	Point	47	.000345	75.252629	34.649218	NO	0	2	1	0	-7.971966	•	Label				
94	47	Point	47	.000347	75.252629	34.649218	NO	0	2	1	0	-7.966186	2.00e-06	Notes				
95	48	Point	48	.000306	75.816408	34.649218	NO	0	2	1	0	-8.091926	•	Variables		13		
96	48	Point	48	.000309	75.816408	34.649218	NO	0	2	1	0	-8.08217	3.08e-06	Observations		662		
97	49	Point	49	.0003	76.380186	34.649218	NO	0	2	1	0	-8.111728		Size		37.50K		

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	OBJECTID	Shape	pointid	CO	x	у	SEZ	SEZ_1	time	post	interraction	lnCO	diff		Variables				
99	50	Point	50	.00028	76.943965	34.649218	NO	0	2	1	. 0	-8.180721			A Filter veriab	los horo			
100	50	Point	50	.000283	76.943965	34.649218	NO	0	2	1	. 0	-8.170064	3.00e-06		Tritter variau	ies liere			
101	51	Point	51	.000424	70.178623	34.08544	NO	0	2	1	. 0	-7.765777			✓ Name	Label	Туре	Format	Value I
102	51	Point	51	.00042	70.178623	34.08544	NO	0	2	1	. 0	-7.775256	-4.00e-06		OBJECTID	OBJECTID *	int	%10.0g	
103	52	Point	52	.000462	70.742402	34.08544	NO	0	2	1	. 0	-7.679945		1	🗹 Shape	Shape *	str5	%9s	
104	52	Point	52	.008459	70.742402	34.08544	NO	0	2	1	. 0	-7.68646	-3.00e-06		✓ pointid	pointid	int	%10.0g	
105	53	Point	53	.000515	71.30618	34.08544	NO	0	2	1	. 0	-7.571343			CO CO	CO	double	%10.0g	
106	53	Point	53	.000512	71.30618	34.08544	NO	0	2	1	. 0	-7.577186	-3.00e-06		¥ ×	x	double	%10.0g	
107	54	Point	54	.000557	71.869958	34.08544	YES	1	2	1	1	-7.492945			🕑 у	у	double	%10.0g	
108	54	Point	54	.000554	71.869958	34.08544	YES	1	2	1	1	-7.498346	-3.00e-06		SEZ SEZ	SEZ	str3	%9s	
109	55	Point	55	.000556	72.433737	34.08544	YES	1	2	1	. 1	-7.494742			SEZ_1	SEZ_1	byte	%10.0g	
110	55	Point	55	.000559	72.433737	34.08544	YES	1	2	1	1	-7.489361	3.00e-06		✓ time		float	%9.0g	
111	56	Point	56	.000511	72.997515	34.08544	YES	1	2	1	1	-7.579141			✓ post		float	%9.0a	
112	56	Point	56	.000508	72.997515	34.08544	NO	0	2	1	. 0	-7.585029	-3.00e-06						
113	57	Point	57	.008457	73.561294	34.08544	NO	0	2	1	. 0	-7.690827			Variables Snap	thots			
114	57	Point	57	.008454	73.561294	34.08544	NO	0	2	1	. 0	-7.697413	-3.00e-06		variables Slidp:	shots			
115	58	Point	58	.000425	74.125072	34.08544	NO	0	2	1	. 0	-7.763422			Properties				
116	58	Point	58	.000422	74.125072	34.08544	NO	0	2	1	. 0	-7.770505	-3.00e-06		▲ Variables				
117	59	Point	59	.008446	70.178623	33.521662	NO	0	2	1	. 0	-7.715192			Name				
118	59	Point	59	.000451	70.178623	33.521662	NO	0	2	1	. 0	-7.784843	5.00e-06		Label				
119	60	Point	60	.000481	70.742402	33.521662	NO	0	2	1	. 0	-7.639643			Туре				
120	60	Point	60	.000485	70.742402	33.521662	NO	0	2	1	. 0	-7.631361	4.00e-06		Format				
121	61	Point	61	.000522	71.30618	33.521662	NO	0	2	1	. 0	-7.557843			Value label				
122	61	Point	61	.000526	71.30618	33.521662	NO	0	2	1	. 0	-7.55021	4.00e-06		Notes				
123	62	Point	62	.000555	71.869958	33.521662	NO	0	2	1	. 0	-7.496542			⊿ Data				
124	62	Point	62	.000559	71.869958	33.521662	NO	0	2	1	. 0	-7.489361	4.00e-06		Frame		default		
125	63	Point	63	.000556	72.433737	33.521662	NO	0	2	1	. 0	-7.494742			Filename		regress CO 10-	18.dta	
126	63	Point	63	.00056	72.433737	33.521662	NO	0	2	1	. 0	-7.487574	4.00e-06		Label				
127	64	Point	64	.000553	72.997515	33.521662	NO	0	2	1	0	-7.500153			Notes				
128	64	Point	64	.00055	72.997515	33.521662	NO	0	2	1	. 0	-7.505592	-3.00e-06		Variables		13		
129	65	Point	65	.000515	73.561294	33.521662	NO	0	2	1	0	-7.571343			Observations		662		
130	65	Point	65	.000518	73.561294	33.521662	NO	0	2	1	. 0	-7.565536	3.00e-06		Size		37.50K		

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	OBJECTID	Shape	pointid	co	×	у	SEZ	SEZ_1	time	post	interraction	lnCO	diff	Variables				
131	66	Point	66	.000454	74.125072	33.521662	NO	0	2	1	0	-7.697413		 Filter varia 	hles here			
132	66	Point	66	.000457	74.125072	33.521662	NO	0	2	1	0	-7.690827	3.00e-06		le e e	-		
133	67	Point	67	.000413	69.614845	32.957883	NO	0	2	1	. 0	-7.792063		Name	Label	Туре	Format	Value I
134	67	Point	67	.008489	69.614845	32.957883	NO	0	2	1	. 0	-7.801795	-4.00e-06	OBJECTID	OBJECTID *	int	%10.0g	
135	68	Point	68	.000471	70.178623	32.957883	NO	0	2	1	0	-7.660653		✓ Shape	Shape *	str5	%9s	
136	68	Point	68	.000476	70.178623	32.957883	NO	0	2	1	. 0	-7.650093	5.00e-06	✓ pointid	pointid	int	%10.0g	
137	69	Point	69	.00053	70.742402	32.957883	NO	0	2	1	. 0	-7.542634		✓ CO	CO	double	%10.0g	
138	69	Point	69	,000534	70.742402	32.957883	NO	0	2	1	. 0	-7.535115	4.00e-06	¥ ×	×	double	%10.0g	
139	70	Point	70	.000549	71.30618	32.957883	NO	0	2	1	. 0	-7.507412		⊻ y	У	double	%10.0g	
140	70	Point	70	.000545	71.30618	32.957883	NO	0	2	1	. 0	-7.514725	-4.00e-06	✓ SEZ	SEZ	str3	%9s	
141	71	Point	71	.000561	71.869958	32.957883	NO	0	2	1	0	-7.48579		SEZ_1	SEZ_1	byte	%10.0g	
142	71	Point	71	.000556	71.869958	32.957883	NO	0	2	1	. 0	-7,494742	-5.00e-06	✓ time		float	%9.0g	
143	72	Point	72	.000558	72.433737	32.957883	NO	0	2	1	0	-7.491152		✓ post		float	%9.0g	
144	72	Point	72	.000553	72.433737	32.957883	NO	0	2	1	0	-7,500153	-5.00e-06					
145	73	Point	73	.000562	72.997515	32.957883	NO	0	2	1	0	-7.484009		Variables Sna	oshots			
146	73	Point	73	.000558	72.997515	32.957883	NO	0	2	1	0	-7.491152	-4.00e-06					
147	74	Point	74	.000567	73.561294	32.957883	NO	0	2	1	. 0	-7.475151		Properties				
148	74	Point	74	.000564	73.561294	32.957883	NO	0	2	1	. 0	-7.488456	-3.00e-06	4 Variables				
149	75	Point	75	.000541	74.125072	32.957883	NO	0	2	1	0	-7.522091		Name				
150	75	Point	75	.000544	74.125072	32.957883	NO	0	2	1	0	-7.516562	3.00e-06	Label				
151	76	Point	76	.000496	74.688851	32.957883	NO	0	2	1	. 0	-7,608934		Туре				
152	76	Point	76	.000498	74.688851	32.957883	NO	0	2	1	. 0	-7.68491	2.00e-06	Format				
153	77	Point	77	.000496	75.252629	32.957883	NO	0	2	1	. 0	-7,608934		Value label				
154	77	Point	77	.000498	75.252629	32.957883	NO	0	2	1	. 0	-7.68491	2.00e-06	Notes				
155	78	Point	78	.000434	69.614845	32.394105	NO	0	2	1	. 0	-7.742466		▲ Data				
156	78	Point	78	.000429	69.614845	32.394105	NO	0	2	1	. 0	-7.754054	-5.00e-06	Frame		default		
157	79	Point	79	.000486	70.178623	32.394105	NO	0	2	1	. 0	-7.629302		Filename		regress CO 10-	18.dta	
158	79	Point	79	.00049	70.178623	32.394105	NO	0	2	1	. 0	-7.621105	4.00e-06	Label				
159	80	Point	80	.000544	70.742402	32.394105	NO	0	2	1	0	-7.516562		Notes				
160	80	Point	80	.000548	70.742402	32.394105	NO	0	2	1	. 0	-7.509235	4.00e-06	Variables		13		
161	81	Point	81	.000567	71.30618	32.394105	NO	0	2	1	0	-7.475151		Observations		662		
162	81	Point	81	.000563	71.30618	32.394105	NO	0	2	1	. 0	-7,482231	-4.00e-06	Size		37.50K		
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	OBJ	ECTID[1]		1														
	OBJECTID	Shape	pointid	CO	x	У	SEZ	SEZ_1	time	post	interraction	lnCO	diff	Variables				
164	82	Point	82	.000554	71.869958	32.394105	NO	0	2	1	0	-7.498346	-5.00e-06	S Filter variab	les here			
165	83	Point	83	.000561	72.433737	32.394105	NO	0	2	1	0	-7.48579				1-	1	
166	83	Point	83	.000556	72.433737	32.394105	NO	0	2	1	. 0	-7.494742	-5.00e-06	Name	Label	Туре	Format	Value I
167	84	Point	84	.000577	72.997515	32.394105	YES	1	2	1	1	-7.457668		OBJECTID	OBJECTID *	int	%10.0g	
168	84	Point	84	.000571	72.997515	32.394105	NO	0	2	1	. 0	-7.468122	-6.00e-06	✓ Shape	Shape *	str5	%9s	
169	85	Point	85	.000587	73.561294	32.394105	NO	0	2	1	. 0	-7.440486		✓ pointid	pointid	int	%10.0g	
170	85	Point	85	.000582	73.561294	32.394105	NO	0	2	1	0	-7.44984	-5.00e-06	CO 🗹	CO	double	%10.0g	
171	86	Point	86	.000591	74.125072	32.394105	YES	1	2	1	1	-7.433694		 ¥ ×	x	double	%10.0g	
172	86	Point	86	.000588	74.125072	32.394105	YES	1	2	1	1	-7.438784	-3.00e-06	 ₩ y	У	double	%10.0g	
173	87	Point	87	.000571	74.688851	32.394105	NO	0	2	1	0	-7.468122		SEZ SEZ	SEZ	str3	%9s	
174	87	Point	87	.00057	74.688851	32.394105	NO	0	2	1	0	-7.469874	-1.00e-06	SEZ_1	SEZ_1	byte	%10.0g	
175	88	Point	88	.000571	75.252629	32.394105	NO	0	2	1	0	-7.468122		✓ time		float	%9.0g	
176	88	Point	88	.00057	75.252629	32.394105	NO	0	2	1	0	-7.469874	-1.00e-06	✓ post		float	%9.0g	
177	89	Point	89	.000523	75.816408	32.394105	NO	0	2	1	. 0	-7.555929						
178	89	Point	89	.000523	75.816408	32.394105	NO	0	2	1	0	-7.555929	0	Variables Snap	shots			
179	90	Point	90	.008412	67.923509	31.830326	NO	0	2	1	. 0	-7.794487						
180	90	Point	90	.008417	67.923509	31.830326	NO	0	2	1	. 0	-7.782424	5.00e-06	Properties				
181	91	Point	91	.000422	68.487288	31.830326	NO	0	2	1	. 0	-7.770505		Variables				
182	91	Point	91	.000427	68.487288	31.830326	NO	0	2	1	. 0	-7.758727	5.00e-06	Name				
183	92	Point	92	.008422	69.051066	31.830326	NO	0	2	1	. 0	-7.778585		Label				
184	92	Point	92	.008427	69.051066	31.830326	NO	0	2	1	. 0	-7.758727	5.00e-06	Туре				
185	93	Point	93	.000463	69.614845	31.830326	NO	0	2	1	. 0	-7.677783		Format				
186	93	Point	93	.000458	69.614845	31.830326	NO	0	2	1	. 0	-7.688642	-5.00e-06	Value label				
187	94	Point	94	.000516	70.178623	31.830326	NO	0	2	1	. 0	-7.569404		Notes				
188	94	Point	94	.000511	70.178623	31.830326	NO	0	2	1	. 0	-7.579141	-5.00e-06	4 Data				
189	95	Point	95	.000565	70.742402	31.830326	NO	0	2	1	. 0	-7.478685		Frame		default		
190	95	Point	95	.000569	70.742402	31.830326	NO	0	2	1	. 0	-7.47163	4.00e-06	Filename		regress CO 10-	18.dta	
191	96	Point	96	.000577	71.30618	31.830326	NO	0	2	1	0	-7.457668		Label				
192	96	Point	96	.000573	71.30618	31.830326	NO	0	2	1	0	-7.464625	-4.00e-06	Notes				
193	97	Point	97	.00058	71.869958	31.830326	NO	0	2	1	9	-7.452482		Variables		13		
194	97	Point	97	.000575	71.869958	31.830326	NO	0	2	1	. 0	-7.461141	-5.00e-06	Observations		662		
195	98	Point	98	.000578	72.433737	31.830326	NO	0	2	1	0	-7.455937		Size		37.50K		
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	OB.	IECTID[1]		1														
	OBJECTID	Shape	pointid	co	x	У	SEZ	SEZ_1	time	post	interraction	lnCO	diff	/ariables				
196	98	Point	98	.000584	72.433737	31.830326	NO	0	2	1	L Ø	-7.44561	6.00e-06	a. []]	las h.e.e.			
197	99	Point	99	.000584	72.997515	31.830326	NO	0	2	1	L 0	-7.44561		Pilter variab	les nere			
198	99	Point	99	.000591	72.997515	31.830326	YES	1	2	1	1 1	-7.433694	7.00e-06	✓ Name	Label	Туре	Format	Value I
199	100	Point	100	.000589	73.561294	31.830326	NO	Θ	2		L 0	-7.437084		OBJECTID	OBJECTID *	int	%10.0g	
200	100	Point	100	.000597	73.561294	31.830326	YES	1	2	1	1 1	-7.423594	8.00e-06	Shape	Shape *	str5	%9s	
201	101	Point	101	.000598	74.125072	31.830326	NO	0	2	1	L 0	-7.42192		pointid	pointid	int	%10.0g	
202	101	Point	101	.000605	74.125072	31.830326	NO	0	2	1	L 0	-7.410282	7.00e-06	🗹 CO	CO	double	%10.0g	
203	102	Point	102	.000599	74.688851	31.830326	NO	0	2	1	L 0	-7.420249		¥ X	х	double	%10.0g	
204	102	Point	102	.000602	74.688851	31.830326	NO	0	2	1	L 0	-7.415253	3.00e-06	 ¥ y	У	double	%10.0g	
205	103	Point	103	.000599	75.252629	31.830326	NO	0	2	1	L 0	-7.420249		SEZ SEZ	SEZ	str3	%9s	
206	103	Point	103	.000602	75.252629	31.830326	NO	0	2	1	L 0	-7.415253	3.00e-06	SEZ_1	SEZ_1	byte	%10.0g	
207	104	Point	184	.000585	75.816408	31.830326	NO	0	2	1	L 0	-7.443899		🗹 time		float	%9.0g	
208	104	Point	104	.000586	75.816408	31.830326	NO	0	2	1	L 0	-7.442191	1.00e-06	✓ post		float	%9.0g	
209	105	Point	105	.008414	67.359731	31.266548	NO	0	2	1	L 0	-7.789645						
210	105	Point	105	.00042	67.359731	31.266548	NO	0	2	1	L 0	-7.775256	6.00e-06	Variables Snap	shots			
211	106	Point	106	.000418	67.923509	31.266548	NO	0	2	1	L 0	-7.780029						
212	106	Point	106	.008413	67.923509	31.266548	NO	0	2	1	L 0	-7.792063	-5.00e-06	Properties				
213	107	Point	107	.000433	68.487288	31.266548	NO	0	2	1	L 0	-7.744773		✓ Variables				
214	107	Point	107	.008427	68.487288	31.266548	NO	0	2	1	L 0	-7.758727	-6.00e-06	Name				
215	108	Point	108	.008433	69.051066	31.266548	NO	0	2	1	L 0	-7.744773		Label				
216	105	Point	108	.008427	69.051066	31.266548	NO	0	2		L 0	-7.758727	-6.00e-06	Туре				
217	109	Point	109	.008456	69.614845	31.266548	NO	0	2	1	L 0	-7.693018		Format				
218	109	Point	109	.00045	69.614845	31.266548	NO	0	2		L 0	-7.706263	-6.00e-06	Value label				
219	110	Point	110	.000495	70.178623	31.266548	NO	0	2	1	L 0	-7.610953		Notes				
220	110	Point	110	.00849	70.178623	31.266548	NO	0	2	1	L 0	-7.621105	-5.00e-06	✓ Data				
221	111	Point	111	.00057	70.742402	31.266548	NO	0	2	1	L 0	-7.469874		Frame		default		
222	111	Point	111	.000566	70.742402	31.266548	NO	0	2	1	L 0	-7.476916	-4.00e-06	Filename		regress CO 10-	18.dta	
223	112	Point	112	.000576	71.30618	31.266548	NO	0	2	1	L 0	-7.459403		Label				
224	112	Point	112	.000581	71.30618	31.266548	NO	0	2	1	L 0	-7.45076	5.00e-06	Notes				
225	113	Point	113	.000579	71.869958	31.266548	NO	0	2	1	L 0	-7.454208		Variables		13		
226	113	Point	113	.000585	71.869958	31.266548	NO	0	2	1	L 0	-7.443899	6.00e-06	Observations		662		
227	114	Point	114	.000587	72.433737	31.266548	NO	0	2	1	L 0	-7.440486		Size		37.50K		
-	_	_	_	_	_	_	_	_	_					Memory		64M		
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	BJECTID	Shape	pointid	co	x	v	SEZ	SEZ 1	time	post	interraction	lnCO	diff	Variables				
228	114	Point	114	.00058	72.433737	31.266548	NO	0	2	1	0	-7.452482	-7.00e-06	valiables				
229	115	Point	115	.000587	72.997515	31.266548	NO	0	2	1	0	-7.440486		Filter variab	les here			
230	115	Point	115	.000595	72.997515	31.266548	YES	1	2	1	1	-7.426949	8.00e-06	✓ Name	Label	Туре	Format	Value I
231	116	Point	116	.00059	73.561294	31.266548	NO	0	2	1	9	-7.435388		OBJECTID	OBJECTID *	int	%10.0g	
232	116	Point	116	.0006	73.561294	31.266548	YES	1	2	1	1	-7.418581	1.00e-05	Shape	Shape *	str5	%9s	
233	117	Point	117	.000612	74.125072	31.266548	NO	0	2	1	0	-7.398778		✓ pointid	pointid	int	%10.0g	
234	117	Point	117	.000602	74.125072	31.266548	NO	0	2	1	0	-7.415253	-1.00e-05	✓ CO	CO	double	%10.0g	
235	118	Point	118	.000466	66.232174	30.702769	NO	0	2	1	0	-7,671325		¥ ×	×	double	%10.0g	
236	118	Point	118	.000473	66.232174	30.702769	NO	0	2	1	0	-7.656415	7.00e-06	⊻ y	У	double	%10.0g	
237	119	Point	119	.000436	66.795952	30.702769	NO	0	2	1	0	-7.737868		✓ SEZ	SEZ	str3	%9s	
238	119	Point	119	.000443	66.795952	30.702769	NO	0	2	1	0	-7.721941	7.00e-06	SEZ_1	SEZ_1	byte	%10.0g	
239	120	Point	120	.000426	67.359731	30.702769	NO	0	2	1	0	-7.761071	1 A A A A A A A A A A A A A A A A A A A	✓ time		float	%9.0g	
240	120	Point	120	.00042	67.359731	30.702769	NO	0	2	1	0	-7.775256	-6.00e-06	✓ post		float	%9.0g	
241	121	Point	121	.000429	67.923509	30.702769	NO	0	2	1	0	-7.754054	1 A A A A A A A A A A A A A A A A A A A				-	
242	121	Point	121	.000435	67.923509	30.702769	NO	0	2	1	0	-7.740165	6.00e-06	Variables Snap	shots			
243	122	Point	122	.000466	68.487288	30.702769	NO	0	2	1	0	-7.671325						
244	122	Point	122	.00046	68.487288	30.702769	NO	0	2	1	0	-7.684284	-6.00e-06	Properties				
245	123	Point	123	.00046	69.051066	30.702769	NO	0	2	1	0	-7.684284		4 Variables				
246	123	Point	123	.000466	69.051066	30.702769	NO	0	2	1	0	-7.671325	6.00e-06	Name				
247	124	Point	124	.000475	69.614845	30.702769	NO	0	2	1	0	-7.652196		Label				
248	124	Point	124	.000469	69.614845	30.702769	NO	0	2	1	0	-7.664908	-6.00e-06	Туре				
249	125	Point	125	.008496	70.178623	30.702769	NO	0	2	1	0	-7.688934		Format				
250	125	Point	125	.000501	70.178623	30.702769	NO	0	2	1	0	-7.598905	5.00e-06	Value label				
251	126	Point	126	.000558	70.742402	30.702769	NO	0	2	1	0	-7.491152		Notes				
252	126	Point	126	.000563	70.742402	30.702769	NO	0	2	1	0	-7,482231	5.00e-06	4 Data				
253	127	Point	127	.000588	71.30618	30.702769	NO	0	2	1	0	-7.438784		Frame		default		
254	127	Point	127	.000582	71.30618	30.702769	NO	0	2	1	0	-7.44984	-6.00e-06	Filename		regress CO 10-	-18.dta	
255	128	Point	128	.00059	71.869958	30.702769	NO	0	2	1	0	-7.435388		Label				
256	128	Point	128	.000583	71.869958	30.702769	NO	0	2	1	0	-7.447323	-7.00e-06	Notes				
257	129	Point	129	.000581	72.433737	30.702769	NO	0	2	1	0	-7.45076	•	Variables		13		
258	129	Point	129	.000589	72.433737	30.702769	NO	0	2	1	0	-7.437084	8.00e-06	Observations		662		
259	130	Point	130	.000591	72.997515	30.702769	NO	0	2	1	0	-7,433694		Size		37.50K		
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	OBJECTID	Shape	pointid	со	×	у	SEZ	SEZ_1	time	post	interraction	lnCO	diff	V	/ariables				
260	130	Point	130	.000581	72.997515	30.702769	NO	0	2	1	0	-7.45076	-1.00e-05		Filter variab	les here			
261	131	Point	131	.000583	73.561294	30.702769	NO	0	2	1	. 0	-7.447323						-	
262	131	Point	131	.000594	73.561294	30.702769	NO	0	2	1	. 0	-7.428631	.000011	6	Name	Label	Туре	Format	Value I
263	132	Point	132	.00059	74.125072	30.702769	NO	0	2	1	. 0	-7.435388			OBJECTID	OBJECTID *	int	%10.0g	
264	132	Point	132	.000602	74.125072	30.702769	NO	0	2	1	. 0	-7.415253	.000012	6	Shape	Shape *	str5	%9s	
265	133	Point	133	.000482	60.594389	30.138991	NO	0	2	1	. 0	-7.637567		6	pointid	pointid	int	%10.0g	
266	133	Point	133	.000487	60.594389	30.138991	NO	0	2	1	. 0	-7.627246	5.00e-06	6	🖉 CO	CO	double	%10.0g	
267	134	Point	134	.000541	61.158168	30.138991	NO	0	2	1	. 0	-7.522091		8	✓ ×	×	double	%10.0g	
268	134	Point	134	.000534	61.158168	30.138991	NO	0	2	1	. 0	-7.535115	-7.00e-06	6	✓ y	У	double	%10.0g	
269	135	Point	135	.008474	66.232174	30.138991	NO	0	2	1	. 0	-7.654303		6	SEZ	SEZ	str3	%9s	
270	135	Point	135	.000467	66.232174	30.138991	NO	0	2	1	. 0	-7.669181	-7.00e-06	6	SEZ_1	SEZ_1	byte	%10.0g	
271	136	Point	136	.000438	66.795952	30.138991	NO	0	2	1	. 0	-7.733292		1 6	🛿 time		float	%9.0g	
272	136	Point	136	.008445	66.795952	30.138991	NO	0	2	1	. 0	-7.717436	7.00e-06		post		float	%9.0g	
273	137	Point	137	.000477	67.359731	30.138991	NO	0	2	1	. 0	-7.647994							
274	137	Point	137	.008471	67.359731	30.138991	NO	0	2	1	. 0	-7.660653	-6.00e-06		Variables Snap	shots			
275	138	Point	138	.000489	67.923509	30.138991	NO	0	2	1	. 0	-7.623148							
276	138	Point	138	.000496	67.923509	30.138991	NO	0	2	1	. 0	-7.608934	7.00e-06		roperues				
277	139	Point	139	.000492	68.487288	30.138991	NO	0	2	1	. 0	-7.617032	•		4 Variables				
278	139	Point	139	.000485	68.487288	30.138991	NO	0	2	1	. 0	-7.631361	-7.00e-06		Name				
279	140	Point	140	.000485	69.051066	30.138991	NO	0	2	1	. 0	-7.631361	•		Label				
280	140	Point	140	.008492	69.051066	30.138991	NO	0	2	1	. 0	-7.61/032	7.00e-06		Type				
281	141	Point	141	.00048	69.614845	30.138991	NO	0	2	1		-7.641725			Format				
282	141	Point	141	.000486	69.614845	30.138991	NO	0	2	1		-7.629302	6.00e-06		value label				
283	142	Point	142	.000513	70.178623	30.138991	NO	0	2	1	. 0	-7.575235			Notes				
284	142	Point	142	000000.	70.1/8625	30.138991	NO	0	2	1		-7.565029	-5.000-00		Data		al a fau dà		
205	145	Point	143	.000574	70.742402	30.138991	10	0	2			-7.402001			Filename		default	10 dta	
200	145	Point	145	.000509	70.742402	30.130991	10	0	2			-7.4/105	-3.000-00		Internative		regress CO 10-	louta	
207	144	Point	144	000504	71 30618	30 130001	10	0	2	1		-7 435388	6.000.06		Notes				
289	145	Point	145	000539	71 860058	30 138001	10	0	2	1		-7.437984	0.000-00		Variables		13		
200	145	Point	145	000582	71.869958	38, 138991	10	0	2	1		-7 44904	-7.00=-06		Observations		662		
291	145	Point	145	000578	72.433737	30.138991	10	0	2	1		-7.455937			Size		37 50K		
-74	140	. orne	140		121-33737	501230991	110	0	-						Mamony		CAM		

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92	146	Point	146	.000587	72.433737	30.138991	NO	0	2	1	0	-7.440486	9.00e-06	9. 500000				
93	147	Point	147	.000578	72.997515	30.138991	NO	0	2	1	9	-7.455937		Pilter var	ables nere			
94	147	Point	147	.000588	72.997515	30.138991	NO	0	2	1	0	-7.438784	1.00e-05	✓ Name	Label	Туре	Format	V
95	148	Point	148	.00059	73.561294	30.138991	NO	0	2	1	0	-7.435388		OBJECTID	OBJECTID *	int	%10.0g	
96	148	Point	148	.000579	73.561294	30.138991	NO	0	2	1	0	-7.454208	000011	Shape	Shape *	str5	%9s	
7	149	Point	149	.008462	60.594389	29.575212	NO	0	2	1	0	-7.679945		✓ pointid	pointid	int	%10.0g	
8	149	Point	149	.000456	60.594389	29.575212	NO	0	2	1	0	-7.693018	-6.00e-06	✓ CO	CO	double	%10.0g	
19	150	Point	150	.008497	61.158168	29.575212	NO	0	2	1	0	-7.606921		✓ x	x	double	%10.0g	
0	150	Point	150	.008491	61.158168	29.575212	NO	0	2	1	0	-7.619066	-6.00e-06	✓ y	у	double	%10.0g	
91	151	Point	151	.000524	61.721946	29.575212	NO	0	2	1	0	-7.554019		SEZ	SEZ	str3	%9s	
92	151	Point	151	.000531	61.721946	29.575212	NO	0	2	1	0	-7.548749	7.00e-06	SEZ_1	SEZ_1	byte	%10.0g	
3	152	Point	152	.000518	62.285725	29.575212	NO	0	2	1	0	-7.565536		✓ time		float	%9.0q	
14	152	Point	152	.000511	62.285725	29.575212	NO	0	2	1	0	-7.579141	-7.00e-06	✓ post		float	%9.0g	
5	153	Point	153	.008496	62.849503	29.575212	NO	0	2	1	0	-7.608934						
6	153	Point	153	.000489	62.849503	29.575212	NO	0	2	1	0	-7.623148	-7.00e-06	Variables Sn	anshots			
7	154	Point	154	.000489	63.413282	29.575212	NO	0	2	1	0	-7.623148						
в	154	Point	154	.008496	63.413282	29.575212	NO	0	2	1	0	-7.608934	7.00e-06	Properties				
9	155	Point	155	.000476	63.97706	29.575212	NO	Θ	2	1	0	-7.650093		Variables				
0	155	Point	155	.000469	63.97706	29.575212	NO	0	2	1	0	-7.664908	-7.00e-06	Name				
1	156	Point	156	.000481	64.540838	29.575212	NO	0	2	1	0	-7.639643		Label				
2	156	Point	156	.008474	64.540838	29.575212	NO	0	2	1	0	-7.654303	-7.00e-06	Туре				
3	157	Point	157	.000501	65.104617	29.575212	NO	0	2	1	0	-7.598905		Format				
4	157	Point	157	,000508	65.104617	29.575212	NO	0	2	1	0	-7.585029	7.00e-06	Value label				
5	158	Point	158	.000491	65.668395	29.575212	NO	0	2	1	0	-7.619066		Notes				
6	158	Point	158	.008499	65.668395	29.575212	NO	0	2	1	0	-7.602904	8.00e-06	4 Data				
7	159	Point	159	.008456	66.232174	29.575212	NO	0	2	1	9	-7.693018		Frame		default		
8	159	Point	159	.000463	66.232174	29.575212	NO	0	2	1	0	-7.677783	7.00e-06	Filename		regress CO 10-	18.dta	
9	160	Point	160	.008445	66.795952	29.575212	NO	0	2	1	0	-7.717436		Label				
0	160	Point	160	.000438	66.795952	29.575212	NO	0	2	1	0	-7.733292	-7.00e-06	Notes				
1	161	Point	161	.000522	67.359731	29.575212	NO	0	2	1	0	-7.557843		Variables		13		
2	161	Point	161	.000515	67.359731	29.575212	NO	0	2	1	0	-7.571343	-7.00e-06	Observation	IS	662		
3	162	Point	162	.000546	67.923509	29.575212	NO	0	2	1	0	-7.512892		Size		37.50K		

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	BJECTID	Shape	pointid	CO	x	У	SEZ	SEZ_1	time	post	interraction	lnCO	diff	Variables				
324	162	Point	162	.000552	67.923509	29.575212	NO	0	2	1	0	-7.501963	6.00e-06	Filter var	ables here			
325	163	Point	163	.000507	68.487288	29.575212	NO	0	2	1	0	-7.586999	7 00- 06	✓ Name	Label	Type	Format	Value
127	164	Point	164	000514	60.051066	29.575212	NO	0	2			-7.573287	7.000-00	OBJECTID	OBJECTID *	int	%10.0g	
127	164	Point	164	000514	69.051066	29.575212	NO	0	2			-7.586000	-7.00=-06	Shape	Shape *	str5	%95	
129	165	Point	165	000514	69 614845	29 575212	NO	0	2			-7 573287	71000 00	nointid	pointid	int	%10.0g	
130	165	Point	165	.000508	69.614845	29.575212	NO	0	2			-7.585029	-6.00#-06	E pointa	CO.	double	%10.0g	
131	165	Point	165	.000542	79.178623	29.575212	NO	0	1			-7.529245			× ×	double	%10.0g	
32	166	Point	166	,000548	70,178623	29.575212	NO	0	2		. 0	-7,509235	6,00e-06		v	double	%10.0g	
333	167	Point	167	,000579	70,742402	29.575212	NO	0	1	(0	-7,454208		SE7	SE7	etr3	9696	
334	167	Point	167	.000584	70.742402	29.575212	NO	0	1			-7.44561	5.00e-06	G SEZ 1	SEZ 1	bute	%10.00	
135	168	Point	168	.000581	71.30618	29.575212	NO	0	1	(0	-7.45076		V time	JLL_1	float	%9.0a	
36	168	Point	168	.000587	71.30618	29.575212	NO	9	1	(-7.440486	6.00e-06	e and		float	%9.0g	
137	169	Point	169	.000585	71.869958	29.575212	NO	0	1	6	0	-7.443899		e post		noar	769.0y	
338	169	Point	169	.000578	71.869958	29.575212	NO	0	1	(0	-7.455937	-7.00e-06	Variables Sr	apphote			
139	170	Point	170	.000584	72.433737	29.575212	NO	0	1	(-7.44561		valiables 3	apsilots			
40	170	Point	170	.000575	72.433737	29.575212	NO	0	1	6	9 0	-7.461141	-9.00e-06	Properties				
41	171	Point	171	.000585	72.997515	29.575212	NO	0	1	(0	-7.443899		✓ Variables				
42	171	Point	171	.000574	72.997515	29.575212	NO	0	1	6	9 0	-7.462881	000011	Name				
43	172	Point	172	.008472	61.158168	29.011434	NO	0	1	6	0	-7.658532		Label				
44	172	Point	172	.000478	61.158168	29.011434	NO	0	1	(-7.6459	6.00e-06	Туре				
45	173	Point	173	.000507	61.721946	29.011434	NO	0	1	6		-7.586999		Format				
46	173	Point	173	.000513	61.721946	29.011434	NO	0	1	(0	-7.575235	6.00e-06	Value label				
47	174	Point	174	.000514	62.285725	29.011434	NO	0	1	6	9 0	-7.573287		Notes				
48	174	Point	174	.000507	62.285725	29.011434	NO	0	1	6	0	-7.586999	-7.00e-06	4 Data				
149	175	Point	175	.000511	62.849503	29.011434	NO	0	1	(0	-7.579141		Frame		default		
150	175	Point	175	.000504	62.849503	29.011434	NO	0	1	6	0	-7.592934	-7.00e-06	Filename		regress CO 10-	18.dta	
51	176	Point	176	.000504	63.413282	29.011434	NO	0	1	6	0	-7.592934		Label				
52	176	Point	176	.000511	63.413282	29.011434	NO	0	1	6	0	-7.579141	7.00e-06	Notes				
53	177	Point	177	.000502	63.97706	29.011434	NO	0	1		0	-7.59691		Variables		13		
54	177	Point	177	.000495	63.97706	29.011434	NO	0	1		0 0	-7,610953	-7.00e-06	Observatio	15	662		
55	178	Point	178	.000505	64.540838	29.011434	NO	0	1	6	0	-7.590952		Size		37.50K		
_	_	_	_	_	_		_	_	_					Memory		64M		

🔠 Data	Editor	(Edit) -	[regress	10-18]	

File Edit View Data Tools

	OBJE	ECTID[1]		1															
0	DECTID	Shape	pointid	co	x	у	SEZ	SEZ_1	time	post	interraction	lnCO	diff		Variables				
56	178	Point	178	.000498	64.540838	29.011434	NO	0	1	0	0	-7.68491	-7.00e-06		 Filter variable 	es here			
57	179	Point	179	.000508	65.184617	29.011434	NO	0	1	0	0	-7.585029			Tel Name	l shat	Time	France	Mala
8	179	Point	179	.000501	65.104617	29.011434	NO	0	1	0	0	-7.598905	-7.00e-06		IN ame	Label	Type	rormat	Valu
•	180	Point	180	.000493	65.668395	29.011434	NO	0	1	0	0	-7.615001			COBJECTID	OBJECTID *	int	%10.0g	
	180	Point	180	.000485	65.668395	29.011434	NO	0	1	0	0	-7.631361	-8.00e-06		M Shape	Shape *	str5	%9s	
	181	Point	181	.008448	66.232174	29.011434	NO	0	1	0	0	-7.710717			✓ pointid	pointid	int	%10.0g	
	181	Point	181	.00044	66.232174	29.011434	NO	0	1	0	0	-7.728736	-8.00e-06		✓ CO	CO	double	%10.0g	
	182	Point	182	.000443	66.795952	29.011434	NO	0	1	0	0	-7.721941	•		¥ ×	x	double	%10.0g	
	182	Point	182	.00045	66.795952	29.011434	NO	0	1	0	0	-7.706263	7.00e-06		₩ у	У	double	%10.0g	
	183	Point	183	.000535	67.359731	29.011434	NO	0	1	0	0	-7.533244	•		SEZ SEZ	SEZ	str3	%9s	
	183	Point	183	.000542	67.359731	29.011434	NO	0	1	0	0	-7.520245	7.00e-06		SEZ_1	SEZ_1	byte	%10.0g	
	184	Point	184	.000573	67.923509	29.011434	NO	0	1	0	0	-7.464625	•		🗹 time		float	%9.0g	
	184	Point	184	.000566	67.923509	29.011434	NO	0	1	0	0	-7.476916	-7.00e-06		🗹 post		float	%9.0g	
	185	Point	185	.00054	68.487288	29.011434	NO	0	1	0	0	-7.523942	•						
	185	Point	185	.000546	68.487288	29.011434	NO	0	1	0	0	-7.512892	6.00e-06		Variables Snaps	hots			
	186	Point	186	.00054	69.051066	29.011434	NO	0	1	0	0	-7.523942			Properties				
	186	Point	186	.000546	69.051066	29.011434	NO	0	1	0	0	-7.512892	6.000-06	_	rioperues				
	187	Point	187	.000539	69.614845	29.011434	NO	0	1	0	9	-7.525/95			* Variables				
	187	Point	187	.000545	69.614845	29.011434	NO	0	1	0	0	-7.514725	6.000-00		Name				
	188	Point	188	.000565	/0.1/8623	29.011434	NO	0	1	0	9	-/.4/8685			Label				
	188	Point	188	.00057	70.178623	29.011434	NU	9	1	0	9	-7.469874	5.008-00		Type				
	189	Point	189	.000586	70.742402	29.011434	NO	0	1	0	0	-7.442191			Format				
	109	Point	109	.000579	70.742402	29.011434	NO	0	-	0	9	-7.454200	-7.002-00		Notes				
	198	Point	190	.000585	71.30618	29.011434	NO	0	1	0	0	-7.445899	7.00+.06		A Data				
	190	Point	190	.000578	71.30018	29.011434	NO	0	1	0	0	-7.435937	-7.000-00		Frama		default		
	191	Point Point	191	000533	71 869959	29.011434	10	0	1		9	-7 462891	-9.00+-05		Filename		regress (O 10-	18 dta	
	191	Point	191	000573	71.009950	29.011434	NO	0	1	0	0	-7.464625	-9.000-00		Label		regress CO 10-	louta	
	192	Point	192	.000573	72.433727	29.011434		0		0	0	-7.44994	9,000=06		Notes				
	192	Point	192	000502	72 007515	20.011434	NO	0	1	0	0	-7.468122	01000-00		Variables		13		
	193	Point	193	.000571	72.997515	29.011434		0	1	0	a	-7.44984	.000011		Observations		662		
	195	Point	194	.000502	61.721946	28.447655	NO	0	1	9	0	.7.592934			Size		37 50K		
	794		194	1000004	041721940	2014/1033	140		*	0	0				516.5		STISSA		



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File	Edit View	w Data	Tools															
1	- 📔 🗄	🖶 🐘 I	δ 🤉 🖣															
	var	r16[413]																
	OBJECTID	Shape	pointid	co	×	У	SEZ	SEZ_1	time	post	interraction	lnCO	diff	Variables				
388	194	Point	194	.000498	61.721946	28.447655	NO	0	1	0	0	-7.68491	-6.00e-06	Filter var	ables here			
389	195	Point	195	.000529	62.285725	28.447655	NO	0	1	0	0	-7.544522				1-	1	
390	195	Point	195	.000522	62.285725	28.447655	NO	0	1	0	0	-7.557843	-7.00e-06	✓ Name	Label	Туре	Format	Value
391	196	Point	196	.000535	62.849503	28.447655	NO	0	1	0	0	-7,533244		OBJECTID	OBJECTID *	int	%10.0g	
392	196	Point	196	.000528	62.849503	28.447655	NO	0	1	0	0	-7.546414	-7.00e-06	Shape	Shape *	str5	%9s	
393	197	Point	197	.000535	63.413282	28.447655	NO	0	1	0	0	-7.533244		✓ pointid	pointid	int	%10.0g	
394	197	Point	197	.000528	63.413282	28.447655	NO	0	1	0	0	-7.546414	-7.00e-06	CO CO	CO	double	%10.0g	
395	198	Point	198	.000519	63.97706	28.447655	NO	0	1	0	9	-7.563607		×	х	double	%10.0g	
396	198	Point	198	.000526	63.97706	28.447655	NO	0	1	0	0	-7.55021	7.00e-06	🖌 у	У	double	%10.0g	
397	199	Point	199	.000509	64.540838	28.447655	NO	0	1	0	0	-7.583063		✓ SEZ	SEZ	str3	%9s	
398	199	Point	199	.000501	64.540838	28.447655	NO	0	1	0	0	-7.598905	-8.00e-06	SEZ_1	SEZ_1	byte	%10.0g	
399	200	Point	200	.000501	65.104617	28.447655	NO	0	1	0	0	-7.598905		V time		float	%9.0g	
400	200	Point	200	.000508	65.104617	28.447655	NO	0	1	0	0	-7.585029	7.00e-06	✓ post		float	%9.0g	
401	201	Point	201	.008492	65.668395	28.447655	NO	0	1	0	0	-7.617032						
402	201	Point	201	.000485	65.668395	28.447655	NO	0	1	0	0	-7.631361	-7.00e-06	Variables Sn	anshots			
403	202	Point	202	.008442	66.232174	28.447655	NO	0	1	0	9	-7.724201		Variables	apariota			
484	202	Point	202	.008449	66.232174	28.447655	NO	0	1	0	9	-7.708488	7.00e-06	Properties				
405	203	Point	203	.000464	66.795952	28.447655	NO	0	1	0	9	-7.675626		Variables				
406	203	Point	203	.008471	66.795952	28.447655	NO	0	1	0	0	-7.660653	7.00e-06	Name				
407	284	Point	284	.000548	67.359731	28.447655	NO	0	1	0	0	-7.509235		Label				
408	204	Point	284	.000554	67.359731	28.447655	NO	0	1	0	0	-7.498346	6.00e-06	Туре				
409	205	Point	205	.00058	67.923509	28.447655	NO	0	1	0	0	-7.452482		Format				
410	205	Point	205	.000574	67.923509	28.447655	NO	0	1	0	0	-7.462881	-6.00e-06	Value label				
411	206	Point	206	.000578	68.487288	28.447655	NO	0	1	0	0	-7.455937		Notes				
412	206	Point	286	.000572	68.487288	28.447655	NO	0	1	0	9	-7.466372	-6.00e-06	4 Data				
413	207	Point	207	.000578	69.051066	28.447655	NO	0	1	0	0	-7.455937		Frame		default		
414	207	Point	207	.000572	69.051066	28.447655	NO	0	1	0	9	-7.466372	-6.00e-06	Filename		regress CO 10-	18.dta	
415	208	Point	288	.000574	69.614845	28.447655	NO	0	1	0	0	-7.462881		Label				
416	208	Point	208	.00058	69.614845	28.447655	NO	0	1	0	0	-7,452482	6.00e-06	Notes				
417	209	Point	289	.000585	70.178623	28.447655	NO	0	1	9	0	-7.443899		Variables		13		
418	209	Point	209	.000578	70.178623	28.447655	NO	0	1	0	0	-7.455937	-7.00e-06	Observation	15	662		
419	210	Point	210	,000585	70,742402	28,447655	NO	0	1	0	0	-7,443899		Size		37.50K		

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Data Editor (Edit) - [regress CO 10-18] File Edit View Data Tools

	var	16[413]																
	OBJECTID	Shape	pointid	CO	x	У	SEZ	SEZ_1	time	post	interraction	lnCO	diff	Variables				
20	210	Point	210	.000578	70.742402	28.447655	NO	0	1	0	0	-7.455937	-7.00e-06	 Filter variab 	les here			
21	211	Point	211	.000575	71.30618	28.447655	NO	0	1	0	0	-7.461141		Lel Name	Label	Tune	Farmat	Malu
22	211	Point	211	.000583	71.30618	28.447655	NO	0	1	9	9	-7.447323	8.00e-06	✓ Name	Label	Iype	Format	value
23	212	Point	212	.000572	71.869958	28.447655	NO	0	1	0	0	-7.466372		OBJECTID	OBJECTID *	int	%10.0g	
24	212	Point	212	.000582	71.869958	28.447655	NO	0	1	0	0	-7.44984	1.00e-05	M Shape	Shape *	strb	%95	
15	213	Point	213	.000571	72.433737	28.447655	NO	0	1	0	0	-7.468122	•	✓ pointid	pointid	int	%10.0g	
16	213	Point	213	.000581	72.433737	28.447655	NO	0	1	0	0	-7.45076	1.00e-05	✓ co	CO	double	%10.0g	
7	214	Point	214	.000514	62.285725	27.883877	NO	0	1	0	0	-7.573287		⊻ ×	x	double	%10.0g	
18	214	Point	214	.000507	62.285725	27.883877	NO	0	1	0	0	-7.586999	-7,00e-06	🖌 У	У	double	%10.0g	
9	215	Point	215	.00053	62.849503	27.883877	NO	0	1	0	0	-7.542634	•	SEZ SEZ	SEZ	str3	%9s	
10	215	Point	215	.000537	62.849503	27.883877	NO	0	1	0	0	-7.529512	7.00e-06	SEZ_1	SEZ_1	byte	%10.0g	
1	216	Point	216	.000537	63.413282	27.883877	NO	0	1	9	0	-7.529512		✓ time		float	%9.0g	
	216	Point	216	.00053	63.413282	27.883877	NO	0	1	0	0	-7.542634	-7.00e-00	✓ post		float	%9.0g	
	21/	Point	21/	.000536	63.97706	27.883877	NO	0	1	0	9	-7.531376	1					
	217	Point	217	.000529	63.97706	27.883877	NU	0	1	0	9	-7.544522	-7.00e-06	Variables Snap	shots			
-	218	Point	218	.000524	64.540030	27.883877	NO	0	1	0	9	-7.554019	7.00-05	Properties				
	216	Point	210	.000531	64.540658	27.003077	NO	0	-	0	0	-7.540749	7.008-00	4 Masiables				
	219	Point	219	.000500	65.104617	27.003077	140	0		0	0	-7.505029		- variables				
	219	Point	219	.000310	65.669305	27.003077	140	0	1	0	0	-7.509404	0.000-00	label				
	220	Boint	220	000470	65 669205	27.003077	140	0		0	0	-7.636093	7 000 06	Turpo				
	220	Point	220	000465	66 232174	27.883877	140	0	1	0	0	-7.671325	7.000-00	Format				
	221	Point	221	000450	66 232174	27.003077	NO	0	-	0	0	-7 688642	-2.000-06	Value Jabel				
	222	Point	222	000456	66 705052	27 883877	NO	0	1	0		-7.629392	-0.000-00	Notes				
	222	Roint	222	000479	66.795952	27.883877	NO	0	1	0	0	-7.64381	-7.00#-06	4 Data				
	223	Point	223	.000547	67.359731	27.883877	NO	0	-		9	-7.511862		Frame		default		
	223	Point	223	.000554	67.359731	27.883877	NO	0	1			-7.498346	7.00=-06	b Filename		regress CO 10-	18 dta	
,	224	Point	224	.000576	67.923509	27.883877	NO	-	1			-7.459403		Label		regress co ro		
3	224	Point	224	.000583	67,923509	27.883877	NO	0	1	9	0	-7.447323	7,08#-96	Notes				
	225	Point	225	.000584	68,487288	27.883877	NO	0	1	0	0	-7,44561		Variables		13		
)	225	Point	225	.000578	68.487288	27.883877	ND	0	1	0	0	-7.455937	-6.00e-06	Observations		662		
	226	Point	226	,000578	69,051066	27.883877	NO	0	1	0	0	-7,455937		Size		37.50K		
1								-	-					Mamoni		C ANA		

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	var	16[413]																
	OBJECTID	Shape	pointid	co	x	У	SEZ	SEZ_1	time	post	interraction	lnCO	diff	Variables				
452	226	Point	226	.000584	69.051066	27.883877	NO	0	1	9	0	-7.44561	6.00e-06	 Filter variab 	les here			
453	227	Point	227	.000579	69.614845	27.883877	NO	0	1	0	0	-7.454208		Name	Label	Type	Format	Value
454 166	227	Point	227	.000586	59.514845	27.883877	NO	0	1	6		-7.442191	7.000-06		OBJECTID *	int	%10.0g	Toroto
100	228	Point	228	.000577	70.178623	27.003077	NO	0	1		0	-7.45/008	7.00+.06	Shane	Shane *	str5	%Qc	
50	220	Boint	220	000574	70.270025	27.003077	140	0	1			-7.44901	7.000-00	Dointid	pointid	int	%10.0g	
59	229	Point	229	000574	70.742402	27.003077	NO	0	1	0	0	-7.402001	8.00=-06		CO	double	%10.0g	
50	220	Point	220	000501	71 30618	27.003077	100	0	1			-7 45076	0.000-00		~	double	%10.0g	
60	230	Point	230	000572	71 39618	27 883877	NO	0	1			-7 466372	-9.00#-06		*	double	%10.0g	
61	231	Point	231	000572	71 869958	27 883877	NO	0	1			-7 452482	51002 00	V y	y 557	double atr?	2610.0g	
162	231	Point	231	.00057	71.869958	27.883877	NO	9	1		9	-7.469874	-1.00#-05	SEZ	SEZ A	SU 5	7695	
63	232	Point	232	.000495	62.285725	27.320098	NO	0	1			-7.618953		SEZ_1	SEZ_1	byte	%10.0g	
64	232	Point	232	.000488	62.285725	27.320098	NO	0	1			-7.625195	-7.00e-06	✓ time		fioat	%9.0g	
65	233	Point	233	,000512	62.849503	27.320098	NO	0	1	0	0	-7,577186		e post		noat	769.0g	
66	233	Point	233	.000506	62.849503	27.320098	NO	0	1	9	0	-7.588974	-6.00e-06					
67	234	Point	234	.000512	63.413282	27.320098	NO	0	1	e	0	-7.577186		Variables Snap	shots			
68	234	Point	234	.000506	63.413282	27.320098	NO	0	1	9	9	-7.588974	-6.00e-06	Properties				
69	235	Point	235	.000521	63.97706	27.320098	NO	0	1	e	0	-7.559761		▲ Variables				
70	235	Point	235	.000514	63.97706	27.320098	NO	0	1	0	0	-7.573287	-7.00e-06	Name				
71	236	Point	236	.000505	64.540838	27.320098	NO	0	1	0	0	-7.598952		Label				
72	236	Point	236	.000512	64.540838	27.320098	NO	0	1	e	0	-7.577186	7.00e-06	Туре				
73	237	Point	237	.000489	65.104617	27.320098	NO	0	1	0	0	-7.623148		Format				
74	237	Point	237	.000481	65.104617	27.320098	NO	0	1	0	0	-7.639643	-8.00e-06	Value label				
75	238	Point	238	.000476	65.668395	27.320098	NO	0	1	e	0	-7.650093		Notes				
76	238	Point	238	.000469	65.668395	27.320098	NO	0	1	0	0	-7.664908	-7.00e-06	4 Data				
77	239	Point	239	.000473	66.232174	27.320098	NO	0	1	0	0	-7.656415		Frame		default		
78	239	Point	239	.000481	66.232174	27.320098	NO	0	1	e	0	-7.639643	8.00e-06	Filename		regress CO 10-	18.dta	
79	240	Point	240	.00849	66.795952	27.320098	NO	0	1	e	0	-7.621105		Label				
80	240	Point	240	.000497	66.795952	27.320098	NO	0	1	e	0	-7.606921	7.00e-06	Notes				
81	241	Point	241	.000554	67.359731	27.320098	NO	0	1	e	0	-7.498346		Variables		13		
82	241	Point	241	.00056	67.359731	27.320098	NO	0	1	0	0	-7.487574	6.00e-06	Observations		662		
83	242	Point	242	.000584	67.923509	27.320098	NO	0	1	0	0	-7,44561		Size		37.50K		

Data	Editor	(Edit)	[regress	10-18

File Edit View Data Tools

	var	16[413]																	
OB	DECTID	Shape	pointid	CO	x	У	SEZ	SEZ_1	time	post	interraction	lnCO	diff		Variables				
34	242	Point	242	.000578	67.923509	27.320098	NO	0	1	0	0	-7.455937	-6.00e-06		S Filter variab	les here			
15	243	Point	243	.000577	68.487288	27.320098	YES	1	1	0	0	-7.457668				Interio	Time	France	Male
6	243	Point	243	.000583	68.487288	27.320098	YES	1	1	0	0	-7.447323	6.00e-06		✓ Name	Label	Iype	Format	Valu
7	244	Point	244	.000583	69.051066	27.320098	YES	1	1	0	0	-7,447323			IN ORJECTID	OBJECTID *	int	%10.0g	
	244	Point	244	.000577	69.051066	27.320098	NO	0	1	0	0	-7.457668	-6.00e-06		✓ Shape	Shape *	str5	%9s	
	245	Point	245	.000577	69.614845	27.320098	NO	0	1	0	0	-7.457668			✓ pointid	pointid	int	%10.0g	
	245	Point	245	.000584	69.614845	27.320098	NO	0	1	0	0	-7.44561	7.00e-06		CO 🗹	CO	double	%10.0g	
	246	Point	246	.000573	70.178623	27.320098	NO	0	1	0	0	-7.464625			¥ ×	х	double	%10.0g	
	246	Point	246	.000582	70.178623	27.320098	NO	0	1	0	0	-7.44984	9.00e-06		🖌 Х	У	double	%10.0g	
	247	Point	247	.000579	70.742402	27.320098	NO	0	1	0	0	-7.454208			SEZ 🖉	SEZ	str3	%9s	
	247	Point	247	.000569	70.742402	27.320098	NO	0	1	0	0	-7.47163	-1.00e-05		SEZ_1	SEZ_1	byte	%10.0g	
	248	Point	248	.000578	71.30618	27.320098	NO	0	1	0	0	-7.455937			✓ time		float	%9.0g	
	248	Point	248	.000568	71.30618	27.320098	NO	0	1	0	0	-7.473389	-1.00e-05		✓ post		float	%9.0g	
	249	Point	249	.000496	62.285725	26.75632	NO	0	1	0	0	-7.688934	•					_	
	249	Point	249	.000489	62.285725	26.75632	NO	0	1	0	0	-7.623148	-7.00e-06		Variables Snap	shots			
	250	Point	250	.000498	62.849503	26.75632	NO	0	1	0	0	-7.68491			Descetter				
	250	Point	250	.000505	62.849503	26.75632	NO	0	1	0	0	-7.590952	7.00e-06		Properties				
	251	Point	251	.000505	63.413282	26.75632	NO	0	1	0	0	-7.590952			Variables				
	251	Point	251	.000498	63.413282	26.75632	NO	0	1	0	0	-7.68491	-7.08e-06		Name				
	252	Point	252	.000508	63.97706	26.75632	NO	0	1	0	0	-7.585029	•		Label				
	252	Point	252	.000501	63.97706	26.75632	NO	0	1	0	0	-7.598905	-7.00e-06		Type				
	253	Point	253	.000485	64.540838	26.75632	NO	0	1	0	0	-7.631361	•	I	Format				
	253	Point	253	.000493	64.540838	26.75632	NO	0	1	0	0	-7.615001	8.00e-06		Value label				
	254	Point	254	.00049	65.104617	26.75632	NO	0	1	0	0	-7.621105			Notes				
	254	Point	254	.000483	65.104617	26.75632	NO	0	1	0	0	-7.635494	-7.00e-06		a Data		de la de		
	255	Point	255	.000489	65.668395	26.75632	NO	0	1	0	0	-7.623148			Frame		default	10.11	
	255	Point	255	.000497	65.668395	26.75632	NO	0	1	0	0	-7.606921	8.00e-06		Filename		regress CO 10-	18.0ta	
	256	Point	256	.000492	66.232174	26.75632	NO	0	1	0	0	-7.617032			Label				
	256	Point	256	.000499	66.232174	26.75632	NO	0	1	0	0	-7.602904	/.00e-00		Vision		12		
	257	Point	257	.000509	66.795952	26.75632	NO	0	1	0	0	-7.583063			Observations		13		
	257	Point	257	.000516	66.795952	26.75632	NO	0	1	0	0	-7.569404	7.00e-06		Observations		002		
	258	Point	258	.000561	67.359731	26.75632	NO	0	1	0	0	-7.48579	•		Size		37.50K		

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	va	r16[413]																
	ORIFCTTD	Shape	pointid	c0	x	v	SE7	SE7 1	time	post	interraction	1000	diff	Variables				
516	258	Point	258	.000568	67.359731	26.75632	NO	0	1	e		-7.473389	7.00e-06	variables				
517	259	Point	259	.000578	67.923509	26.75632	NO	0	1	6	0 0	-7.455937		 Filter variab 	les here			
518	259	Point	259	.000585	67.923509	26.75632	NO	0	1	e	9 0	-7.443899	7.00e-06	✓ Name	Label	Туре	Format	Value I
519	260	Point	260	.000584	68.487288	26.75632	NO	0	1	e	9 0	-7.44561		☑ OBJECTID	OBJECTID *	int	%10.0g	,
520	260	Point	260	.000577	68.487288	26.75632	NO	0	1	e	0 0	-7.457668	-7.00e-06	Shape	Shape *	str5	%9s	
521	261	Point	261	.000577	69.051066	26.75632	NO	0	1	e		-7.457668		✓ pointid	pointid	int	%10.0g	
522	261	Point	261	.000584	69.051066	26.75632	NO	0	1	e		-7.44561	7.00e-06	CO 🗹	CO	double	%10.0g	
523	262	Point	262	.000577	69.614845	26.75632	NO	0	1	e	0	-7.457668		¥ ×	x	double	%10.0g	
524	262	Point	262	.000585	69.614845	26.75632	NO	0	1	e		-7.443899	8.00e-06	₩ y	У	double	%10.0g	
525	263	Point	263	.000582	70.178623	26.75632	NO	0	1	e		-7.44984		SEZ	SEZ	str3	%9s	
526	263	Point	263	.000573	70.178623	26.75632	NO	0	1	e	9 0	-7.464625	-9.00e-06	SEZ 1	SEZ 1	byte	%10.0g	
527	264	Point	264	.000558	61.721946	26.192542	NO	0	1	e		-7.491152		✓ time		float	%9.0a	
528	264	Point	264	.000551	61.721946	26.192542	NO	0	1	e	9 0	-7.503776	-7.00e-06	✓ nost		float	%9.0g	
529	265	Point	265	.00056	62.285725	26.192542	NO	0	1	e	0 0	-7.487574						
530	265	Point	265	.000552	62.285725	26.192542	NO	0	1	e		-7.501963	-8.00e-06	Variabler Span	that			
531	266	Point	266	.000554	62.849503	26.192542	NO	0	1	e	9 0	-7.498346		variables shap	511015			
532	266	Point	266	.000545	62.849503	26.192542	NO	0	1	e	9 0	-7.514725	-9.00e-06	Properties				
533	267	Point	267	.000545	63.413282	26.192542	NO	0	1	e	9 0	-7.514725		▲ Variables				
534	267	Point	267	.000554	63.413282	26.192542	NO	0	1	e	0 0	-7.498346	9.00e-06	Name				
535	268	Point	268	.000537	63.97706	26.192542	NO	0	1	e	9 0	-7.529512		Label				
536	268	Point	268	.000529	63.97706	26.192542	NO	0	1	e	9 9	-7.544522	-8.00e-06	Туре				
537	269	Point	269	.000527	64.540838	26.192542	NO	0	1	e	9 0	-7.54831		Format				
538	269	Point	269	.000536	64.540838	26.192542	NO	0	1	e	9 0	-7.531376	9.00e-06	Value label				
539	270	Point	270	.000539	65.104617	26.192542	NO	0	1	e	9 9	-7.525795		Notes				
540	270	Point	270	.000547	65.104617	26.192542	NO	0	1	e	9 0	-7.511062	8.00e-06	✓ Data				
541	271	Point	271	.000555	65.668395	26.192542	NO	0	1	e	0	-7.496542		Frame		default		
542	271	Point	271	.000546	65.668395	26.192542	NO	0	1	e		-7.512892	-9.00e-06	Filename		regress CO 10-	18.dta	
543	272	Point	272	.000551	66.232174	26.192542	NO	0	1	e	9 0	-7.503776		Label				
544	272	Point	272	.00056	66.232174	26.192542	NO	0	1	e	0	-7.487574	9.00e-06	Notes				
545	273	Point	273	.000557	66.795952	26.192542	NO	0	1	e		-7.492945		Variables		13		
546	273	Point	273	.000549	66.795952	26.192542	NO	0	1	e	0	-7.507412	-8.00e-06	Observations		662		
547	274	Point	274	.000559	67.359731	26.192542	NO	0	1	e	9 0	-7.489361		Size		37.50K		
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Data Editor (Edit) - [regress CO 10-18]

File Edit View Data Tools

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	var1	6[413]																
(BJECTID	Shape	pointid	CO	x	у	SEZ	SEZ_1	time	post	interraction	lnCO	diff	Variables				
580	290	Point	290	.000572	67.359731	25.628763	NO	0	1	0	0	-7.466372	8.00e-06	S Eilter verie	blos boro			
581	291	Point	291	.00059	67.923509	25.628763	NO	0	1	0	0	-7.435388		Tritter varia				
582	291	Point	291	.000581	67.923509	25.628763	NO	0	1	0	0	-7.45076	-9.00e-06	Name Name	Label	Туре	Format	Value
583	292	Point	292	.000601	68.487288	25.628763	NO	0	1	0	0	-7.416915		OBJECTID	OBJECTID *	int	%10.0g	
584	292	Point	292	.00059	68.487288	25.628763	NO	0	1	0	0	-7.435388	000011	✓ Shape	Shape *	str5	%9s	
585	293	Point	293	.000601	69.051066	25.628763	NO	0	1	0	0	-7.416915	1 A A A A A A A A A A A A A A A A A A A	✓ pointid	pointid	int	%10.0g	
586	293	Point	293	.00059	69.051066	25.628763	NO	0	1	0	0	-7.435388	000011	₩ CO	CO	double	%10.0g	
587	294	Point	294	.000585	69.614845	25.628763	NO	θ	1	0	0	-7.443899		₩ x	x	double	%10.0g	
588	294	Point	294	.000597	69.614845	25.628763	NO	0	1	0	0	-7.423594	.000012	⊻ y	У	double	%10.0g	
589	295	Point	295	.000591	70.178623	25.628763	NO	0	1	0	0	-7.433694		✓ SEZ	SEZ	str3	%9s	
590	295	Point	295	.000578	70.178623	25.628763	NO	0	1	0	0	-7.455937	000013	SEZ_1	SEZ_1	byte	%10.0g	
591	296	Point	296	.00057	70.742402	25.628763	NO	0	1	0	0	-7.469874		✓ time		float	%9.0g	
592	296	Point	296	.000583	70.742402	25.628763	NO	0	1	0	0	-7.447323	.000013	✓ post		float	%9.0g	
593	297	Point	297	.000574	61.721946	25.064985	NO	0	1	0	0	-7.462881					-	
594	297	Point	297	.000583	61.721946	25.064985	NO	0	1	0	0	-7.447323	9.00e-06	Variables Sna	pshots			
595	298	Point	298	.000582	62.285725	25.064985	NO	0	1	0	0	-7.44984						
596	298	Point	298	.000574	62.285725	25.064985	NO	0	1	0	0	-7.462881	-8.00e-06	Properties				
597	299	Point	299	.000583	62.849503	25.064985	NO	0	1	0	0	-7.447323		4 Variables				
598	299	Point	299	.000574	62.849503	25.064985	NO	0	1	0	0	-7.462881	-9.00e-06	Name				
599	300	Point	300	.000574	63.413282	25.064985	NO	0	1	0	0	-7.462881		Label				
600	300	Point	300	.000583	63.413282	25.064985	NO	0	1	0	9	-7.447323	9.00e-06	Туре				
601	301	Point	301	.000584	63.97706	25.064985	NO	0	1	0	0	-7.44561		Format				
602	301	Point	301	.000574	63.97706	25.064985	NO	0	1	0	0	-7.462881	-1.00e-05	Value label				
603	302	Point	302	.000574	64.540838	25.064985	NO	0	1	0	0	-7.462881		Notes				
604	302	Point	302	.000584	64.540838	25.064985	NO	0	1	0	0	-7.44561	1.00e-05	4 Data				
605	303	Point	303	.000573	65.104617	25.064985	NO	0	1	0	0	-7.464625		Frame		default		
606	303	Point	303	.000584	65.104617	25.064985	NO	0	1	0	0	-7.44561	.000011	Filename		regress CO 10-	18.dta	
607	304	Point	384	.000618	66.795952	25.064985	YES	1	1	0	0	-7.389022		Label				
608	304	Point	304	.000607	66.795952	25.064985	YES	1	1	0	0	-7.406982	000011	Notes				
609	305	Point	305	.000605	67.359731	25.064985	YES	1	1	0	0	-7.410282		Variables		13		
610	305	Point	305	.000617	67.359731	25.064985	YES	1	1	0	0	-7.398642	.000012	Observations		662		
611	306	Point	306	.000597	67.923509	25.064985	NO	0	1	0	0	-7.423594		Size		37.50K		
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612	306	Point	306	.00061	67.923509	25.064985	NO	0	1	0	0	-7.402051	.000013	 Filter varia 	hles here			
613	307	Point	307	.000605	68.487288	25.064985	NO	0	1	0	0	-7.410282				-	le i	1
614	307	Point	307	.000591	68.487288	25.064985	NO	0	1	0	0	-7.433694	000014	✓ Name	Label	Iype	Format	Value I
615	308	Point	308	.000591	69.051066	25.064985	NO	0	1	0	0	-7.433694		☑ OBJECTID	OBJECTID *	int	%10.0g	
616	308	Point	308	.000605	69.051066	25.064985	NO	0	1	0	0	-7.410282	.000014	Shape	Shape *	str5	%9s	
617	309	Point	309	.000597	69.614845	25.064985	NO	0	1	0	0	-7.423594		☑ pointid	pointid	int	%10.0g	
618	309	Point	389	.000584	69.614845	25.064985	NO	0	1	0	0	-7.44561	000013	₽ co	CO	double	%10.0g	
619	310	Point	310	.000591	70.178623	25.064985	NO	0	1	0	0	-7.433694		¥ ×	×	double	%10.0g	
620	310	Point	310	.000577	70.178623	25.064985	NO	0	1	0	0	-7.457668	000014	🗹 у	У	double	%10.0g	
621	311	Point	311	.000574	70.742402	25.064985	NO	0	1	0	0	-7.462881		SEZ SEZ	SEZ	str3	%9s	
622	311	Point	311	.000587	70.742402	25.064985	NO	0	1	0	0	-7.440486	.000013	SEZ_1	SEZ_1	byte	%10.0g	
623	312	Point	312	.000577	71.30618	25.064985	NO	0	1	0	9	-7.457668		✓ time		float	%9.0g	
624	312	Point	312	.000591	71.30618	25.064985	NO	0	1	0	0	-7.433694	.000014	✓ post		float	%9.0g	
625	313	Point	313	.000608	66.795952	24.501206	NO	0	1	0	0	-7.405336						
626	313	Point	313	.000595	66.795952	24.501206	YES	1	1	0	0	-7.426949	000013	Variables Sna	pshots			
627	314	Point	314	.000592	67.359731	24.501206	NO	0	1	0	0	-7.432004						
628	314	Point	314	.000607	67.359731	24.501206	YES	1	1	0	0	-7.406982	.000015	Properties				
629	315	Point	315	.0006	67.923509	24.501206	NO	0	1	0	0	-7.418581		✓ Variables				
630	315	Point	315	.000586	67.923509	24.501206	NO	0	1	0	0	-7.442191	000014	Name				
631	316	Point	316	.000597	68.487288	24.501206	NO	0	1	0	0	-7.423594	1 A A A A A A A A A A A A A A A A A A A	Label				
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634	317	Point	317	.000583	69.051066	24.501206	NO	0	1	0	0	-7.447323	000014	Value label				
635	318	Point	318	.000579	69.614845	24.501206	NO	0	1	0	0	-7.454208		Notes				
636	318	Point	318	.000593	69.614845	24.501206	NO	0	1	0	0	-7.430316	.000014	✓ Data				
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639	320	Point	320	.000579	70.742402	24.501206	NO	0	1	0	0	-7.454208		Label				
640	320	Point	320	.000592	70.742402	24.501206	NO	0	1	0	0	-7.432004	.000013	Notes				
641	321	Point	321	.000595	71.30618	24.501206	NO	0	1	0	0	-7.426949		Variables		13		
642	321	Point	321	.000582	71.30618	24.501206	NO	0	1	0	0	-7.44984	000013	Observations		662		
643	322	Point	322	.000583	67.359731	23.937428	NO	0	1	0	0	-7.447323		Size		37.50K		
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