

Spatial Tax Panel Metadata Document

National Treasury Cities Support Programme and Human Sciences Research Council

Version 2.2 2022-10-28

Introduction

This document provides detailed metadata and additional documentation related to the Spatial Tax Panel prepared as part of the Cities Support Programme's project to mine the administrative tax data available within the South African National Treasuries' Secure Data Center. This document is intended to provide the necessary detail for end-users to easily navigate the prepared data and includes details related to all datasets and the variables contained therein. Further detail related to the methodological approaches used to derive these data are documented in a separate methodological document.

About these datasets

Title	Spatial Tax Panel
Metadata Updated	2022-10-28
Data Extracted	2022-10-28
Data Owner	National Treasury
Prepared By	Andrew Nell
Version	Version 2.2 2022-10-28
Notes on version	2nd Phase Release including additional approved variables from SARS

Attribution

The data can be referenced using the following:

Nell, A. Visagie, J. Spatial Tax Panel 2014-2021 [dataset]. Version 2.2. National Treasury - Cities Support Programme and Human Sciences Research Council [producer and distributor], 2022.

What is included?

What is included?

Included as part of the release of this data is:

- **Metadata Document** - This metadata document providing documentation and details related to the data prepared as part of this project.
- **Data** - The 86 datasets that were prepared. A detailed list of these datasets and documentation around them is provided in the detailed datasets section.
- **Shapefiles** - Shapefiles for Uber's H3 equal area hexagon framework with an aperture of 7 (edge lengths of approximately 1.2km) for the entire country and for all Local Municipalities (from 2018). These are both available publicly through the [Uber H3 API](#) and from the [Demarcation Board's website](#) respectively.
- **Supplementary Data** - Additional datasets that provide supplementary detail related to specific variables. This includes a detailed SIC7 industry classification to match onto the numbers in the data which is derived from the [Statistics South Africa's documentation](#).

Background

There is currently a dearth of economic data relating to the nature of employment and firms in South Africa, particularly at a sub-metro level. There are various data available at higher levels such as Statistics South Africa's (Stats SA) Quarterly Labour Force Survey (QLFS), Quarterly Employment Survey (QES) as well as reports on Gross Domestic Product and inflation. Despite some of the limitations of these types of data (head office effect and similar) they are often disaggregated and repurposed by private firms to be sold back to relevant stakeholders for profit in order to conduct evidenced-based policy, research and strategy. Such commercial firms are reluctant to publish their methods when producing spatial economic data in order to protect their intellectual property but this exacerbates the risk of serious policy error if based upon deficient or inappropriate data.

Since 2015, the South African Revenue Service (SARS) and National Treasury (NT) in partnership with the United Nations University World Institute for Development Economics Research (UNU-WIDER) have set up a secure data facility (SDF) at NT to host anonymised administrative tax data for policy relevant research. The data provides a granular, longitudinal and sustainable source of data for formal sector employment and businesses. The intention was that researchers, policymakers, government officials, civil society, think tanks, private sector organisations, and active citizens could uncover new insights about formal sector employment and businesses in South Africa. However, in practice, access has been limited due to the inherent constraints of users traveling to the SDF located in Pretoria (data is only available in the lab due to the sensitivity of firm-level and employee-level tax records).

Therefore, in order to address the gap in spatial economic data, the National Treasury, Cities Support Programme (CSP) commissioned a initial project exploring and preparing a spatial tax panel for the metros in 2019. The first task was to take advantage of spatial fields routinely collected as part of tax filing process to support spatial analysis within the NT-SDF. In addition, an exciting opportunity was to aggregate and transform the data from individual/firm level to a tract or municipal level. An aggregated spatial tax panel (where the unit of analysis is a place) would not compromise on the identity of any firm or individual and could therefore be freely shared outside the NT-SDF. In 2021, the CSP entered into a partnership with the Human Sciences Research Council (HSRC) to regularly produce and maintain spatial tax panels from the tax information stored within the NT-SDF.

This document provides detailed metadata and additional documentation related to the output Spatial Tax Panel data and variables contained therein.

Data Source

Data Source

The data used for this analysis was primarily built from the IRP5 tax form, which is a submission (mandatory since 2011) completed by each Pay-as-you-Earn (PAYE) registered employer for all employees earning more than R2000 per annum.

The anonymised IRP5 data available within the SDC includes details relating to each individual (income, gender, age and industry), and importantly information relating to the work address postal code. This field is generally populated for 90% of all certificates.

This data is then combined with firm level information from the:

- ITR14 tax form - which includes details relating to firms such as industry, turnover, firm size (according to SARS definition) etc.,
- VAT submissions – which includes details relating to industry, and
- Customs data – which includes details relating to the import/export status of firms.

However, it should be noted that these other datasets do not match to all firms recorded in the IRP5 submissions due to criteria for who would need to submit each of these forms. This means that some of these variables are not complete for all records. This is discussed in more detail in the methodological document. Additionally, data used from these forms are reported at a firm level rather than a branch level.

Caveats

Before accessing the data, it is important to be aware of several notable limitations:

- This is administrative data and was not intended for these purposes. The data nor the forms are designed to be used to understand the spatial nature of economic activity and this leaves the data prone to errors. To illustrate this, the data is generally filed by thousands of individual firms and persons making it is susceptible to human error and this is often near impossible to fix or clean. Examples include arbitrary changes to industry classification (particularly at higher digit SIC codes), invalid dates, incorrect amounts or invalid source codes etc. However, over time these are issues that can be improved in the tax filing process through feedback to the appropriate stakeholders and additional cleaning steps included. It is recommended that this data be supplemented with additional data where possible to enrich what can be deduced from it. Further work is required to clean up some of these issues in the data.
- As the data is derived from taxpayer submissions, it only accounts for the formal sector in firms and individuals. In the South African context this means that a large portion of economic activity is missing from the data
- The spatialised component of the data is currently based on postal codes. While this allows for estimations of sub-municipal level behavior, the process (which utilises areal interpolation that disaggregates a single establishment or individual over multiple hexagons) introduces error spatially, limiting accuracy. However, this would still provide some indication of where establishments and employees are generally located with regional concentrations clearly identifiable.
- While the head office effect appears to be mostly accounted for in the way companies file tax for each employee in the data, there are several major firms that have been identified where they list all employees at a head office or do not indicate branches within the IRP5 submission. This does result in spikes in employment, particularly in some of the metros. These large spike are generally identifiable within the data, however, it is difficult to deduce the exact scale of the issue, particularly in instances where this occurs for smaller firms.

List of Variables

- This dataset is created largely from firm's IRP5 submissions for each of their employees, however, supplementary data is gained from merging firms ITR14, VAT and Customs submissions. The requirements for completing each of these forms and the sub components within them vary. This often results in a mismatch or missing data where records do not exist for specific data sources, this is particularly true when looking at firm level information.
- It is also important to note that some of these supplementary variables from other datasets (particularly ITR14 and VAT) are reported at a holding firm level rather than per establishment or branch. While approaches have been introduced to disaggregate this data and account for this, there is no completely accurate way to achieve this.
- ITR14 submissions do not align with tax years as defined by SARS, they relate to a firm's financial year and hence several figures are pro-rated to conform to official tax year periods. This further distorts some of the variables in the data, however this still allows one understand performance, as well as being able to compare performance over common periods and further protects some of these highly sensitive figures reported by individual firms.
- In order to protect the anonymity of individuals and firms within the data, in instances where there are less than 10 individuals or firms per aggregation (spatially, temporally and across aggregation variables) this data is masked (Indicated by '<10' in the data). Unfortunately, this means that the higher number of variables the data is aggregated by, ensure more data is masked, resulting in data losses. To account for this, data is generally aggregated by single variables and occasionally multiple variables where it is believed that this does add value.
- The data is transferred from SARS on an annual basis and includes all the latest information that currently exist within the SARS databases. For different forms, these updates occur at differing frequencies, however, as these submissions are normally made after the completion of a specific tax period there is a lag between the data and current time. This means that data for later years often does have maturity issues where there are multiple individuals or firms that have not yet submitted their forms or maybe have incorrect or erroneous submissions that are still being audited or corrected. Revisions will be submitted in subsequent years that would correct this information. This can result in erroneous drops in numbers of observations for later years, but cannot be fully accounted for until a new more mature version of the data is extracted to NT. This means that several of the firm-level variables have a lag of up to two years behind the extraction year and this is observable in some of the firm-related variables

List of Variables

There are 24 variables that exist across all the the datasets and are used with various combinations. These are categorised in a few categories to easily differentiate them:

- **Spatial** - Variables related to the different spatial components by which the data can be broken down.
- **Temporal** - Variables related to the different temporal components by which the data can be broken down.
- **Output** - Output variables identify quantifiable values associated with combinations of spatio-temporal components and any other variables that are used for aggregation.
- **Aggregation** - Aggregation variables are supplementary variables by which some of the output variables can be grouped by to better understand specific contexts.

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List of Variables

All the variables that exist in the data are identified in the table below and are documented in further detail in the Detailed Descriptions of Variables section:

Category	Variable Name	Short Description
Spatial	CAT_B	The code of the municipality.
Spatial	BusAddrPostalCode	The South African Post Office postal code.
Spatial	hex7	The Uber H3 hexagon identifier.
Temporal	TaxYear	The recorded tax year.
Temporal	month	The recorded month and calendar year.
Output	FTE	The number of full time equivalent (FTE) employees.
Output	Establishments	The number of establishments.
Output	MedianIncome	The median income calculated based on weighted incomes of all employees within an aggregation.
Output	gini	The gini coefficient calculated based on the weighted incomes of all employees within an aggregation.
Aggregation	AgeGroup	The age of corresponding full time equivalent employees aggregated into bands.
Aggregation	Youth	A indicator that indicates whether a full time equivalent employee is between the ages of 15 and 24, 25 and 34 or older.
Aggregation	Gender	The gender that corresponds to full time equivalent employees.
Aggregation	RealWageBand	The inflation adjusted wage of corresponding full time equivalent employees aggregated into bands.
Aggregation	SIC7_1d	The 1 digit industry classification code.
Aggregation	SIC7_2d	The 2 digit industry classification code.
Aggregation	SIC7_3d	The 3 digit industry classification code.
Aggregation	SIC7_4d	The 4 digit industry classification code.
Aggregation	SIC7_5d	The 5 digit industry classification code.
Aggregation	Immigration	The Immigration Status of the employee associated with the corresponding full time equivalent employee
Aggregation	Export	The export status corresponding to the holding firm of an establishment.
Aggregation	Import	The import status corresponding to the holding firm of an establishment.
Aggregation	FirmSizeSARS	The South African Revenue Service (SARS) classification of firm size based on the holding firms gross income turnover and total assets.
Aggregation	EstablishmentSizeFTE	The number of full time equivalent employees corresponding to each establishment aggregated into ranges of employees.
Aggregation	MultiEstInd	An indicator identifying whether the corresponding establishment is part of a firm that has multiple establishments.

Detailed Descriptions of Variables

CAT_B

Variable Name	CAT_B
Short Description	The code of the municipality.
Long Description	The code of the municipality that the corresponding data is attributed to. The corresponding names are available in the Local Municipality shapefile with a list of codes and names. This is derived into Uber H3 hexagons and then aggregated into municipalities to ensure cases where postal codes may cross municipal boundaries are accounted for.
Category	Spatial
Type	String
Unit of Measure	Municipality Code
Data Source	Derived from Postal Code information
Additional Notes	N/A

BusAddrPostalCode

Variable Name	BusAddrPostalCode
Short Description	The South African Post Office postal code.
Long Description	The South African Post Office postal code that the corresponding data is attributed to as listed on the IRP5 submission.
	Cases where individuals have reported unknown postal codes are still included.
Category	Spatial
Type	Integer
Unit of Measure	Postal Code Number
Data Source	IRP5
Additional Notes	N/A

hex7

Variable Name	hex7
Short Description	The Uber H3 hexagon identifier.

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Detailed Descriptions of Variables

hex7(continued)

Long Description	The Uber H3 hexagon identifier that the corresponding data is attributed to. This is derived using a process that leverages partial shapefiles of postal codes in South Africa, supplementary publicly available data from the South African Post Office and publicly available land-use data from the South African National Landcover dataset to disaggregate data into lower level equal area hexagons. The exact process is described in detail in the methodological document and would introduce some error as there is currently no data available on exact location of establishments, however, this would still provide a view of where establishments are generally located and identify concentrations.
Category	Spatial
Type	String
Unit of Measure	Uber H3 Hexagon Identifier
Data Source	Derived from Postal Code information
Additional Notes	N/A

TaxYear

Variable Name	TaxYear
Short Description	The recorded tax year.
Long Description	The recorded tax year that the corresponding data is attributed to. Tax years officially run from March (of the preceding year) until February (of the listed year) eg. Tax year 2021 would run from March 2020 until February 2021.
Category	Temporal
Type	Integer
Unit of Measure	Year - YYYY
Data Source	IRP5
Additional Notes	All data reported and derived from the IRP5 (and generally related to employment activity) is reported per the South African Revenue Services' definition of tax year - between March (of the preceding year) and February (of the listed year). However, data gathered from the ITR14 (and generally reported at a holding firm level, rather than establishment) is reported per the holding firms financial year. This data is pro-rated into tax years and is only approximation of these variables over the official South African Revenue Service tax year.

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Detailed Descriptions of Variables

month

Variable Name	month
Short Description	The recorded month and calendar year.
Long Description	The recorded month and calendar year that the corresponding data is attributed to. This data is only available for IRP5 and employment derived variables.
Category	Temporal
Type	Date
Unit of Measure	Year/Month/Day - YYYY/MM/DD
Data Source	IRP5
Additional Notes	N/A

FTE

Variable Name	FTE
Short Description	The number of full time equivalent (FTE) employees.
Long Description	The number of full time equivalent (FTE) employees as calculated based on combinations of the "periods worked from", "periods worked to", "total periods worked" and "periods in year of assessment" data recorded in IRP5 certificates.
	Where 1 FTE employee equates to an individual that worked for 100% of the temporal period and 0.5 FTE employees equates to a person that worked for 50% of the corresponding temporal period (6 months for a tax year or 15 days for a 30 day month).
Category	Output
Type	Float
Unit of Measure	Number of Full Time Equivalent Employees
Data Source	IRP5

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Detailed Descriptions of Variables

FTE(continued)

Additional Notes

When converting certificates into full time equivalent employees there is no additional data available related to deduce whether an individual worked weekdays or weekends and hence we assume that all recorded days are productive days and pro-rate the certificate into the percentage of the period worked (So 9 days within a 30 day month would equate to 0.3 FTE employees regardless of weekend/weekdays within this period).

This would also be susceptible to mistakes that would be made by anyone completing these IRP5 forms.

In cases where there are less than 10 FTE employees per aggregation this data is masked to protect individual's anonymity and is coded '<10' in the data as are any other output variables in the specific dataset.

Establishments

Variable Name
Short Description
Long Description

Establishments

The number of establishments.

The number of establishments as calculated based on the completion of IRP5 certificates where employers list the work place address of each employee.

Category
Type

Output
Float

Unit of Measure
Data Source

Number of Establishments
IRP5

Establishments(*continued*)

Additional Notes

While employers generally list each establishment of a holding firm separately in the IRP5 certificate, noting the specific employees place of work address. There are cases where major firms have been identified that do not differentiate between these establishments/branches and list all employees at a head office. These can be difficult to identify and resolve, however, in cases where major firms record data like this one can easily identify these spikes in employment.

Each establishment is identified by a difference in the company tax reference number, PAYE reference number (which are generally unique to different establishments within a holding company, however not always) and the postal code. This would provide a useful estimation of different establishments, however, there may still be cases where a firm does not differentiate establishments along any of these variables or only by address and several establishments fall in the same postal code. It is envisaged that unique identifiers per recorded address should be included in the future to better differentiate these establishments from one another.

In cases where there are less than 10 Firms per aggregation this data is masked to protect individual firms's anonymity and is coded '<10' in the data as are any other output variables in the specific dataset.

MedianIncome

Variable Name
Short Description
Long Description

MedianIncome
The median income calculated based on weighted incomes of all employees within an aggregation.
The median income weighted by full time equivalent employees based on incomes of all employees within an aggregation.

Category
Type
Unit of Measure
Data Source
Additional Notes

Variable uses nominal values as this can be adjusted to real values by end-users.
Output
Float
South African Rands - ZAR
Derived from Income Information
The monthly income used to derive median income is created by using a combination of income source codes (deemed to be related to labour income - see methodological document) and the periods worked. There may be cases where the income over a period, or the period worked, may not be accurate and hence this may skew some of the figures here in rare cases.

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Detailed Descriptions of Variables

gini

Variable Name	gini
Short Description	The gini coefficient calculated based on the weighted incomes of all employees within an aggregation.
Long Description	The gini coefficient weighted by full time equivalent employees based on incomes of all employees within an aggregation.
Category	All instances where there are less than 100 employees per aggregation are masked from the data due to skewness introduced in calculating gini with low numbers of employees.
Type	Output
Unit of Measure	Float
Data Source	Gini Coefficient
Additional Notes	Derived from Income Information The monthly income used to derive gini coefficient is created by using a combination of income source codes (deemed to be related to labour income - see methodological document) and the periods worked. There may be cases where the income over a period, or the period worked, may not be accurate and hence this may skew some of the figures here in rare cases.

AgeGroup

Variable Name	AgeGroup
Short Description	The age of corresponding full time equivalent employees aggregated into bands.
Long Description	The age of corresponding full time equivalent employees aggregated into bands, as defined by the date of birth variable completed on the IRP5 certificate.
Category	Age groups correspond to standard International Labour Organisation (ILO) age groups.
Type	Aggregation
Unit of Measure	Categorical
Data Source	Age Ranges
Additional Notes	IRP5
	N/A

Youth

Variable Name	Youth
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Detailed Descriptions of Variables

Youth(*continued*)

Short Description	A indicator that indicates whether a full time equivalent employee is between the ages of 15 and 24, 25 and 34 or older.
Long Description	The age of corresponding full time equivalent employees aggregated into broader categories than age, as defined by the date of birth variable completed on the IRP5 certificate.
Category	These were created for the purposes of understanding youth related issues in South Africa.
Type	Aggregation
Unit of Measure	Categorical
Data Source	Youth Status
Additional Notes	IRP5
	N/A

Gender

Variable Name	Gender
Short Description	The gender that corresponds to full time equivalent employees.
Long Description	The gender that corresponds to full time equivalent employees, as derived using the employees reported ID number.
Category	Aggregation
Type	String
Unit of Measure	N/A
Data Source	Derived from ID Number
Additional Notes	The employees gender is derived from their ID numbers prior to anonymisation. However, if an employee does not have a South African ID number, as is this case with foreign nationals, then there is no way to deduce an individual's gender.

RealWageBand

Variable Name	RealWageBand
Short Description	The inflation adjusted wage of corresponding full time equivalent employees aggregated into bands.

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Detailed Descriptions of Variables

RealWageBand(*continued*)

Long Description	The inflation adjusted wage of corresponding full time equivalent employees aggregated into bands. Monthly Wages are determined using the combination of income codes identified as related to labour income (see methodological document) and by calculating the number of months worked using the "periods worked from", "periods worked to", "total periods worked" and "periods in year of assessment" data recorded in IRP5 certificates (See methodological document for more detail). These monthly wages are then adjusted for inflation using the national consumer price index (CPI) as reported by Statistics South Africa in the value of the latest tax year available in the studies terms.
Category	Adjusted for inflation using national consumer price index data from Statistics South Africa.
Type	Aggregation
Unit of Measure	Categorical
Data Source	Wage Band Ranges
Additional Notes	Derived from Income and Periods Worked Information
	The data used to derive monthly income and hence wage bands is created by using a combination of income source codes (deemed to be related to labour income - see methodological document) and the periods worked. There may be cases where the income over a period, or the period worked, may not be accurate and hence this may skew some of the figures here in rare cases.

SIC7_1d

Variable Name	SIC7_1d
Short Description	The 1 digit industry classification code.
Long Description	The 1 digit industry classification code (Corresponding to Statistics South Africa's SIC7 standard industry classification system).
Category	Aggregation
Type	Integer
Unit of Measure	Industry Classification Code
Data Source	Derived from IRP5, ITR14 and VAT Industry Information
Additional Notes	N/A

SIC7_2d

Variable Name	SIC7_2d
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Detailed Descriptions of Variables

SIC7_2d(continued)

Short Description	The 2 digit industry classification code.
Long Description	The 2 digit industry classification code (Corresponding to Statistics South Africa's SIC7 standard industry classification system).
Category	Aggregation
Type	Integer
Unit of Measure	Industry Classification Code
Data Source	Derived from IRP5, ITR14 and VAT Industry Information
Additional Notes	N/A

SIC7_3d

Variable Name	SIC7_3d
Short Description	The 3 digit industry classification code.
Long Description	The 3 digit industry classification code (Corresponding to Statistics South Africa's SIC7 standard industry classification system).
Category	Aggregation
Type	Integer
Unit of Measure	Industry Classification Code
Data Source	Derived from IRP5, ITR14 and VAT Industry Information
Additional Notes	N/A

SIC7_4d

Variable Name	SIC7_4d
Short Description	The 4 digit industry classification code.
Long Description	The 4 digit industry classification code (Corresponding to Statistics South Africa's SIC7 standard industry classification system).
Category	Aggregation
Type	Integer
Unit of Measure	Industry Classification Code
Data Source	Derived from IRP5, ITR14 and VAT Industry Information
Additional Notes	N/A

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Detailed Descriptions of Variables

SIC7_5d

Variable Name	SIC7_5d
Short Description	The 5 digit industry classification code.
Long Description	The 5 digit industry classification code (Corresponding to Statistics South Africa's SIC7 standard industry classification system).
Category	Aggregation
Type	Integer
Unit of Measure	Industry Classification Code
Data Source	Derived from IRP5, ITR14 and VAT Industry Information
Additional Notes	N/A

Immigration

Variable Name	Immigration
Short Description	The Immigration Status of the employee associated with the corresponding full time equivalent employee
Long Description	The Immigration Status of the employee associated with the corresponding full time equivalent employee. This is derived from the South African ID Number and Passport Number of individuals where a certificate is either classified as: - Foreign National - If the person only has a passport number. - SA Citizen - If the person has a South African ID number and the ID number indicates that they were born in the country. - SA Permanent Resident - If the person has a South African ID number and the ID number indicates that they have permanent resident status.
Category	Aggregation
Type	String
Unit of Measure	Immigration Status
Data Source	IRP5
Additional Notes	Derived from the ID number prior to anonymization.

Export

Variable Name	Export
Short Description	The export status corresponding to the holding firm of an establishment.

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Detailed Descriptions of Variables

Export(*continued*)

Long Description	The export status corresponding to the holding firm of an establishment.
	This is derived by whether the holding firm files custom's related tax form and lists various export activities as part of this process. Unfortunately, there is no way to determine if a particular establishment or branch is directly involved in this import activity, only that the holding firm is an exporting firm.
Category	Aggregation
Type	Integer
Unit of Measure	Boolean
Data Source	Derived from Customs Data
Additional Notes	Data is derived at a firm level, rather than per establishment or branch.

Import

Variable Name	Import
Short Description	The import status corresponding to the holding firm of an establishment.
Long Description	The import status corresponding to the holding firm of an establishment.
	This is derived by whether the holding firm files custom's related tax form and lists various import activities as part of this process. Unfortunately, there is no way to determine if a particular establishment or branch is directly involved in this export activity, only that the holding firm is an exporting firm.
Category	Aggregation
Type	Integer
Unit of Measure	Boolean
Data Source	Derived from Customs Data
Additional Notes	Data is derived at a firm level, rather than per establishment or branch.

FirmSizeSARS

Variable Name	FirmSizeSARS
Short Description	The South African Revenue Service (SARS) classification of firm size based on the holding firms gross income turnover and total assets.

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Detailed Descriptions of Variables

FirmSizeSARS(*continued*)

Long Description	The South African Revenue Service classification of firm size based on the holding firms gross income turnover and total assets. These fall into several potential categories: - Dormant Firms are reported as dormant on the ITR14 tax form. - Shareblocks/Body Corporates are also identified separately on the ITR14 tax form. - Micro Firms are defined as firms with gross income not exceeding R1 million and total assets not exceeding R5 million. - Small Firms are defined as firms with gross income not exceeding R14 million and total assets not exceeding R10 million. - Medium to Large Firms are defined as firms with gross income exceeding R14 million or total assets exceeding R10 million.
Category	Aggregation
Type	String
Unit of Measure	N/A
Data Source	ITR14
Additional Notes	N/A

EstablishmentSizeFTE

Variable Name	EstablishmentSizeFTE
Short Description	The number of full time equivalent employees corresponding to each establishment aggregated into ranges of employees.
Long Description	The number of full time equivalent employees corresponding to each establishment aggregated into ranges of employees. This is derived by calculating the number of full time equivalent employees working at each identifiable establishment.
Category	Aggregation
Type	Categorical
Unit of Measure	Full Time Equivalent Employee Ranges
Data Source	Derived from IRP5

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List of Datasets

EstablishmentSizeFTE(*continued*)

Additional Notes	As this is derived from the periods worked listed on the IRP5 certificates it is susceptible to the same issues this derivation is subject to. When converting certificates into full time equivalent employees there is no additional data available related to the actual number of days worked over a period and hence we assume that all recorded days are productive days and prorate the certificate into the percentage of the period worked (where 100% would equate to 1 full time equivalent employee and 50% would equate to 0.5 full time equivalent employees etc.). This would also be susceptible to mistakes that would be made by anyone completing these IRP5 forms. A firm that may have 6 employees at the start of a tax year and downsizes to 4 employees exactly midway through the tax year would have 5 full time equivalent employees for the tax year and this may skew the desired results in specific scenarios.
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MultiEstInd

Variable Name	MultiEstInd
Short Description	An indicator identifying whether the corresponding establishment is part of a firm that has multiple establishments.
Long Description	An indicator identifying whether the corresponding establishment is part of a firm that has multiple establishments. The indicator identifies establishments that either: - Single-Establishment - Where the firm only has a single establishment. - Multi-Establishment (>1) - Where the firm has at least one other establishment across the country. - Multi-Establishment (>5) - Where the firm has at least five other establishments across the country.
Category	Aggregation
Type	String
Unit of Measure	Multi-Establishment Indicator
Data Source	Derived from ITR14 and IRP5 Forms
Additional Notes	N/A

List of Datasets

The variables listed above exist with varying combinations in the 86 datasets that have been prepared. These datasets follow a specific naming convention that consists of:

{Spatial Aggregation}_{Output Variable}_{All Aggregation Variables}_{Temporal Aggregation if not tax year}.csv

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List of Datasets

Each dataset is listed and described in detail below:

Filename	Dataset Short Description
Metro_FTE_Monthly.csv	Number of FTE Employees
Metro_FTE.csv	Number of FTE Employees
Metro_FTE_Industry5d_Monthly.csv	Number of FTE Employees per 5 Digit Industry Code
Metro_FTE_Industry5d.csv	Number of FTE Employees per 5 Digit Industry Code
Metro_FTE_WageBand_monthly.csv	Number of FTE Employees per Wage Band
Metro_FTE_WageBand.csv	Number of FTE Employees per Wage Band
Metro_FTE_AgeGroup_monthly.csv	Number of FTE Employees per Age Group
Metro_FTE_AgeGroup.csv	Number of FTE Employees per Age Group
Metro_FTE_Gender_Monthly.csv	Number of FTE Employees pe Gender
Metro_FTE_Gender.csv	Number of FTE Employees pe Gender
Metro_FTE_WageBand_Industry5d_monthly.csv	Number of FTE Employees per Wage Band and 5 Digit Industry Code
Metro_FTE_WageBand_Industry5d.csv	Number of FTE Employees per Wage Band and 5 Digit Industry Code
Metro_FTE_Immigration_monthly.csv	Number of FTE Employees per Immigration Status
Metro_FTE_Immigration.csv	Number of FTE Employees per Immigration Status
Metro_FTE_Youth_monthly.csv	Number of FTE Employees by Youth Indicators
Metro_FTE_Youth.csv	Number of FTE Employees by Youth Indicators
Metro_FTE_Youth_Industry5d_monthly.csv	Number of FTE Employees per 5-Digit Industry Code by Youth Indicators
Metro_FTE_Youth_Industry5d.csv	Number of FTE Employees per 5-Digit Industry Code by Youth Indicators
Metro_FTE_Youth_WageBand_monthly.csv	Number of FTE Employees per Wage Band by Youth Indicators
Metro_FTE_Youth_WageBand.csv	Number of FTE Employees per Wage Band by Youth Indicators
Metro_FTE_Youth_Gender_monthly.csv	Number of FTE Employees per Gender by Youth Indicators
Metro_FTE_Youth_Gender.csv	Number of FTE Employees per Gender by Youth Indicators
hex7_FTE_Monthly.csv	Number of FTE Employees
hex7_FTE.csv	Number of FTE Employees
hex7_FTE_Industry5d_Monthly.csv	Number of FTE Employees per 5 Digit Industry Code
hex7_FTE_Industry5d.csv	Number of FTE Employees per 5 Digit Industry Code
hex7_FTE_WageBand_monthly.csv	Number of FTE Employees per Wage Band
hex7_FTE_WageBand.csv	Number of FTE Employees per Wage Band
hex7_FTE_AgeGroup_monthly.csv	Number of FTE Employees per Age Group
hex7_FTE_AgeGroup.csv	Number of FTE Employees per Age Group
hex7_FTE_Gender_Monthly.csv	Number of FTE Employees pe Gender
hex7_FTE_Gender.csv	Number of FTE Employees pe Gender
hex7_FTE_WageBand_Industry5d_monthly.csv	Number of FTE Employees per Wage Band and 5 Digit Industry Code
hex7_FTE_WageBand_Industry5d.csv	Number of FTE Employees per Wage Band and 5 Digit Industry Code
hex7_FTE_Immigration_monthly.csv	Number of FTE Employees per Immigration Status

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hex7_FTE_Immigration.csv	Number of FTE Employees per Immigration Status
hex7_FTE_Youth_monthly.csv	Number of FTE Employees by Youth Indicators
hex7_FTE_Youth.csv	Number of FTE Employees by Youth Indicators
hex7_FTE_Youth_Industry5d_monthly.csv	Number of FTE Employees per 5-Digit Industry Code by Youth Indicators
hex7_FTE_Youth_Industry5d.csv	Number of FTE Employees per 5-Digit Industry Code by Youth Indicators
hex7_FTE_Youth_WageBand_monthly.csv	Number of FTE Employees per Wage Band by Youth Indicators
hex7_FTE_Youth_WageBand.csv	Number of FTE Employees per Wage Band by Youth Indicators
hex7_FTE_Youth_Gender_monthly.csv	Number of FTE Employees per Gender by Youth Indicators
hex7_FTE_Youth_Gender.csv	Number of FTE Employees per Gender by Youth Indicators
Metro_MedianIncome.csv	Median Income
Metro_MedianIncome_Industry5d.csv	Median Income per 5 Digit Industry Code
Metro_MedianIncome_Gender.csv	Median Income per Gender
Metro_MedianIncome_Youth.csv	Median Income by Youth Status
Metro_MedianIncome_Youth_Industry5d.csv	Median Income per 5 Digit Industry Code by Youth Status
Metro_MedianIncome_Youth_Gender.csv	Median Income per Gender by Youth Status
hex7_MedianIncome.csv	Median Income
hex7_MedianIncome_Industry5d.csv	Median Income per 5 Digit Industry Code
hex7_MedianIncome_Gender.csv	Median Income per Gender
hex7_MedianIncome_Youth.csv	Median Income by Youth Status
hex7_MedianIncome_Youth_Industry5d.csv	Median Income per 5 Digit Industry Code by Youth Status
hex7_MedianIncome_Youth_Gender.csv	Median Income per Gender by Youth Status
Metro_Gini.csv	Gini Coefficient
hex7_Gini.csv	Gini Coefficient
Metro_Establishments.csv	Number of Establishments
Metro_Establishments_Industry2d.csv	Number of Establishments per 2 Digit Industry Code
Metro_Establishments_FirmSizeSARS.csv	Number of Establishments per Firm Size (SARS definition)
Metro_Establishments_EstablishmentSizeFTE.csv	Number of Establishments per Establishment Size (Number of employees definition)
Metro_Establishments_Export.csv	Number of Export Establishments
Metro_Establishments_Export_Industry1d.csv	Number of Export Establishments and 1 Digit Industry Code
Metro_Establishments_Export_FirmSizeSARS.csv	Number of Export Establishments per Firm Size (SARS Definition)
Metro_Establishments_Export_EstablishmentSizeFTE.csv	Number of Export Establishments per Establishment Size (Number of employees Definition)
Metro_Establishments_Import.csv	Number of Import Establishments
Metro_Establishments_Import_Industry1d.csv	Number of Import Establishments and 1 Digit Industry Code
Metro_Establishments_Import_FirmSizeSARS.csv	Number of Import Establishments per Firm Size (SARS Definition)
Metro_Establishments_Import_EstablishmentSizeFTE.csv	Number of Import Establishments per Establishment Size (Number of employees Definition)
Metro_Establishments_MultiEstablishment.csv	Number of Establishments per Multi-Establishment Indicator

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Metro_Establishments_MultiEstablishment_Industry1d.csv	Number of Establishments per Multi-Establishment Indicator and 1 Digit Industry Code
hex7_Establishments.csv	Number of Establishments
hex7_Establishments_Industry2d.csv	Number of Establishments per 2 Digit Industry Code
hex7_Establishments_FirmSizeSARS.csv	Number of Establishments per Firm Size (SARS definition)
hex7_Establishments_EstablishmentSizeFTE.csv	Number of Establishments per Establishment Size (Number of employees definition)
hex7_Establishments_Export.csv	Number of Export Establishments
hex7_Establishments_Export_Industry1d.csv	Number of Export Establishments and 1 Digit Industry Code
hex7_Establishments_Export_FirmSizeSARS.csv	Number of Export Establishments per Firm Size (SARS Definition)
hex7_Establishments_Export_EstablishmentSizeFTE.csv	Number of Export Establishments per Establishment Size (Number of employees Definition)
hex7_Establishments_Import.csv	Number of Import Establishments
hex7_Establishments_Import_Industry1d.csv	Number of Import Establishments and 1 Digit Industry Code
hex7_Establishments_Import_FirmSizeSARS.csv	Number of Import Establishments per Firm Size (SARS Definition)
hex7_Establishments_Import_EstablishmentSizeFTE.csv	Number of Import Establishments per Establishment Size (Number of employees Definition)
hex7_Establishments_MultiEstablishment.csv	Number of Establishments per Multi-Establishment Indicator
hex7_Establishments_MultiEstablishment_Industry1d.csv	Number of Establishments per Multi-Establishment Indicator and 1 Digit Industry Code

Detailed Descriptions of Datasets

Metro_FTE_Monthly.csv

Filename	Metro_FTE_Monthly.csv
Short Description	Number of FTE Employees
Long Description	Number of FTE employees per metropolitan municipality recorded monthly
Spatial Level	Metro
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	N/A

Metro_FTE.csv

Filename	Metro_FTE.csv
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Detailed Descriptions of Datasets

Metro_FTE.csv (*continued*)

Short Description	Number of FTE Employees
Long Description	Number of FTE employees per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	N/A

Metro_FTE_Industry5d_Monthly.csv

Filename	Metro_FTE_Industry5d_Monthly.csv
Short Description	Number of FTE Employees per 5 Digit Industry Code
Long Description	Number of FTE employees aggregated per 5-digit industry classification per metropolitan municipality recorded monthly
Spatial Level	Metro
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d

Metro_FTE_Industry5d.csv

Filename	Metro_FTE_Industry5d.csv
Short Description	Number of FTE Employees per 5 Digit Industry Code
Long Description	Number of FTE employees aggregated per 5-digit industry classification per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d

Metro_FTE_WageBand_monthly.csv

Filename	Metro_FTE_WageBand_monthly.csv
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Metro_FTE_WageBand_monthly.csv *(continued)*

Short Description	Number of FTE Employees per Wage Band
Long Description	Number of FTE employees aggregated by wage bands per metropolitan municipality recorded monthly
Spatial Level	Metro
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	RealWageBand

Metro_FTE_WageBand.csv

Filename	Metro_FTE_WageBand.csv
Short Description	Number of FTE Employees per Wage Band
Long Description	Number of FTE employees aggregated by wage bands per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	RealWageBand

Metro_FTE_AgeGroup_monthly.csv

Filename	Metro_FTE_AgeGroup_monthly.csv
Short Description	Number of FTE Employees per Age Group
Long Description	Number of FTE employees aggregated by age groups per metropolitan municipality recorded monthly
Spatial Level	Metro
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	AgeGroup

Metro_FTE_AgeGroup.csv

Filename	Metro_FTE_AgeGroup.csv
Short Description	Number of FTE Employees per Age Group

Metro_FTE_AgeGroup.csv (*continued*)

Long Description	Number of FTE employees aggregated by age groups per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	AgeGroup

Metro_FTE_Gender_Monthly.csv

Filename	Metro_FTE_Gender_Monthly.csv
Short Description	Number of FTE Employees pe Gender
Long Description	Number of FTE employees aggregated by gender per metropolitan municipality recorded monthly
Spatial Level	Metro
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	Gender

Metro_FTE_Gender.csv

Filename	Metro_FTE_Gender.csv
Short Description	Number of FTE Employees pe Gender
Long Description	Number of FTE employees aggregated by gender per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	Gender

Metro_FTE_WageBand_Industry5d_monthly.csv

Filename	Metro_FTE_WageBand_Industry5d_monthly.csv
Short Description	Number of FTE Employees per Wage Band and 5 Digit Industry Code

Metro_FTE_WageBand_Industry5d_monthly.csv (*continued*)

Long Description	Number of FTE employees aggregated by wage bands and 5-digit industry classification per metropolitan municipality recorded monthly
Spatial Level	Metro
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	RealWageBand, SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d

Metro_FTE_WageBand_Industry5d.csv

Filename	Metro_FTE_WageBand_Industry5d.csv
Short Description	Number of FTE Employees per Wage Band and 5 Digit Industry Code
Long Description	Number of FTE employees aggregated by wage bands and 5-digit industry classification per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	RealWageBand, SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d

Metro_FTE_Immigration_monthly.csv

Filename	Metro_FTE_Immigration_monthly.csv
Short Description	Number of FTE Employees per Immigration Status
Long Description	Number of FTE employees aggregated by Immigration Status per metropolitan municipality recorded monthly
Spatial Level	Metro
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	Immigration

Metro_FTE_Immigration.csv

Filename	Metro_FTE_Immigration.csv
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Metro_FTE_Immigration.csv (*continued*)

Short Description	Number of FTE Employees per Immigration Status
Long Description	Number of FTE employees aggregated by Immigration Status per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	Immigration

Metro_FTE_Youth_monthly.csv

Filename	Metro_FTE_Youth_monthly.csv
Short Description	Number of FTE Employees by Youth Indicators
Long Description	Number of FTE employees aggregated by Youth Status per metropolitan municipality recorded monthly
Spatial Level	Metro
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	Youth

Metro_FTE_Youth.csv

Filename	Metro_FTE_Youth.csv
Short Description	Number of FTE Employees by Youth Indicators
Long Description	Number of FTE employees aggregated by Youth Status per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	Youth

Metro_FTE_Youth_Industry5d_monthly.csv

Filename	Metro_FTE_Youth_Industry5d_monthly.csv
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Metro_FTE_Youth_Industry5d_monthly.csv *(continued)*

Short Description	Number of FTE Employees per 5-Digit Industry Code by Youth Indicators
Long Description	Number of FTE employees aggregated by 5-digit industry classification and Youth Status per metropolitan municipality recorded monthly
Spatial Level	Metro
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d, Youth

Metro_FTE_Youth_Industry5d.csv

Filename	Metro_FTE_Youth_Industry5d.csv
Short Description	Number of FTE Employees per 5-Digit Industry Code by Youth Indicators
Long Description	Number of FTE employees aggregated by 5-digit industry classification and Youth Status per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d, Youth

Metro_FTE_Youth_WageBand_monthly.csv

Filename	Metro_FTE_Youth_WageBand_monthly.csv
Short Description	Number of FTE Employees per Wage Band by Youth Indicators
Long Description	Number of FTE employees aggregated by wage bands and Youth Status per metropolitan municipality recorded monthly
Spatial Level	Metro
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	RealWageBand, Youth

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Metro_FTE_Youth_WageBand.csv

Filename	Metro_FTE_Youth_WageBand.csv
Short Description	Number of FTE Employees per Wage Band by Youth Indicators
Long Description	Number of FTE employees aggregated by wage bands and Youth Status per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	RealWageBand, Youth

Metro_FTE_Youth_Gender_monthly.csv

Filename	Metro_FTE_Youth_Gender_monthly.csv
Short Description	Number of FTE Employees per Gender by Youth Indicators
Long Description	Number of FTE employees aggregated by gender and Youth Status per metropolitan municipality recorded monthly
Spatial Level	Metro
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	Gender, Youth

Metro_FTE_Youth_Gender.csv

Filename	Metro_FTE_Youth_Gender.csv
Short Description	Number of FTE Employees per Gender by Youth Indicators
Long Description	Number of FTE employees aggregated by gender and Youth Status per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	Gender, Youth

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hex7_FTE_Monthly.csv

Filename	hex7_FTE_Monthly.csv
Short Description	Number of FTE Employees
Long Description	Number of FTE employees per Uber H3 equal area hexagon recorded monthly
Spatial Level	Equal Area Hexagon
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	N/A

hex7_FTE.csv

Filename	hex7_FTE.csv
Short Description	Number of FTE Employees
Long Description	Number of FTE employees per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	N/A

hex7_FTE_Industry5d_Monthly.csv

Filename	hex7_FTE_Industry5d_Monthly.csv
Short Description	Number of FTE Employees per 5 Digit Industry Code
Long Description	Number of FTE employees aggregated per 5-digit industry classification per Uber H3 equal area hexagon recorded monthly
Spatial Level	Equal Area Hexagon
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d

hex7_FTE_Industry5d.csv

Filename	hex7_FTE_Industry5d.csv
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Detailed Descriptions of Datasets

hex7_FTE_Industry5d.csv *(continued)*

Short Description	Number of FTE Employees per 5 Digit Industry Code
Long Description	Number of FTE employees aggregated per 5-digit industry classification per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d

hex7_FTE_WageBand_monthly.csv

Filename	hex7_FTE_WageBand_monthly.csv
Short Description	Number of FTE Employees per Wage Band
Long Description	Number of FTE employees aggregated by wage bands per Uber H3 equal area hexagon recorded monthly
Spatial Level	Equal Area Hexagon
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	RealWageBand

hex7_FTE_WageBand.csv

Filename	hex7_FTE_WageBand.csv
Short Description	Number of FTE Employees per Wage Band
Long Description	Number of FTE employees aggregated by wage bands per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	RealWageBand

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hex7_FTE_AgeGroup_monthly.csv

Filename	hex7_FTE_AgeGroup_monthly.csv
Short Description	Number of FTE Employees per Age Group
Long Description	Number of FTE employees aggregated by age groups per Uber H3 equal area hexagon recorded monthly
Spatial Level	Equal Area Hexagon
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	AgeGroup

hex7_FTE_AgeGroup.csv

Filename	hex7_FTE_AgeGroup.csv
Short Description	Number of FTE Employees per Age Group
Long Description	Number of FTE employees aggregated by age groups per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	AgeGroup

hex7_FTE_Gender_Monthly.csv

Filename	hex7_FTE_Gender_Monthly.csv
Short Description	Number of FTE Employees pe Gender
Long Description	Number of FTE employees aggregated by gender per Uber H3 equal area hexagon recorded monthly
Spatial Level	Equal Area Hexagon
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	Gender

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Detailed Descriptions of Datasets

hex7_FTE_Gender.csv

Filename	hex7_FTE_Gender.csv
Short Description	Number of FTE Employees pe Gender
Long Description	Number of FTE employees aggregated by gender per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	Gender

hex7_FTE_WageBand_Industry5d_monthly.csv

Filename	hex7_FTE_WageBand_Industry5d_monthly.csv
Short Description	Number of FTE Employees per Wage Band and 5 Digit Industry Code
Long Description	Number of FTE employees aggregated by wage bands and 5-digit industry classification per Uber H3 equal area hexagon recorded monthly
Spatial Level	Equal Area Hexagon
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	RealWageBand, SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d

hex7_FTE_WageBand_Industry5d.csv

Filename	hex7_FTE_WageBand_Industry5d.csv
Short Description	Number of FTE Employees per Wage Band and 5 Digit Industry Code
Long Description	Number of FTE employees aggregated by wage bands and 5-digit industry classification per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	RealWageBand, SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d

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hex7_FTE_Immigration_monthly.csv

Filename	hex7_FTE_Immigration_monthly.csv
Short Description	Number of FTE Employees per Immigration Status
Long Description	Number of FTE employees aggregated by Immigration Status per Uber H3 equal area hexagon recorded monthly
Spatial Level	Equal Area Hexagon
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	Immigration

hex7_FTE_Immigration.csv

Filename	hex7_FTE_Immigration.csv
Short Description	Number of FTE Employees per Immigration Status
Long Description	Number of FTE employees aggregated by Immigration Status per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	Immigration

hex7_FTE_Youth_monthly.csv

Filename	hex7_FTE_Youth_monthly.csv
Short Description	Number of FTE Employees by Youth Indicators
Long Description	Number of FTE employees aggregated by Youth Status per Uber H3 equal area hexagon recorded monthly
Spatial Level	Equal Area Hexagon
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	Youth

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Detailed Descriptions of Datasets

hex7_FTE_Youth.csv

Filename	hex7_FTE_Youth.csv
Short Description	Number of FTE Employees by Youth Indicators
Long Description	Number of FTE employees aggregated by Youth Status per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	Youth

hex7_FTE_Youth_Industry5d_monthly.csv

Filename	hex7_FTE_Youth_Industry5d_monthly.csv
Short Description	Number of FTE Employees per 5-Digit Industry Code by Youth Indicators
Long Description	Number of FTE employees aggregated by 5-digit industry classification and Youth Status per Uber H3 equal area hexagon recorded monthly
Spatial Level	Equal Area Hexagon
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d, Youth

hex7_FTE_Youth_Industry5d.csv

Filename	hex7_FTE_Youth_Industry5d.csv
Short Description	Number of FTE Employees per 5-Digit Industry Code by Youth Indicators
Long Description	Number of FTE employees aggregated by 5-digit industry classification and Youth Status per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d, Youth

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Detailed Descriptions of Datasets

hex7_FTE_Youth_WageBand_monthly.csv

Filename	hex7_FTE_Youth_WageBand_monthly.csv
Short Description	Number of FTE Employees per Wage Band by Youth Indicators
Long Description	Number of FTE employees aggregated by wage bands and Youth Status per Uber H3 equal area hexagon recorded monthly
Spatial Level	Equal Area Hexagon
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	RealWageBand, Youth

hex7_FTE_Youth_WageBand.csv

Filename	hex7_FTE_Youth_WageBand.csv
Short Description	Number of FTE Employees per Wage Band by Youth Indicators
Long Description	Number of FTE employees aggregated by wage bands and Youth Status per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	RealWageBand, Youth

hex7_FTE_Youth_Gender_monthly.csv

Filename	hex7_FTE_Youth_Gender_monthly.csv
Short Description	Number of FTE Employees per Gender by Youth Indicators
Long Description	Number of FTE employees aggregated by gender and Youth Status per Uber H3 equal area hexagon recorded monthly
Spatial Level	Equal Area Hexagon
Temporal Level	Monthly
Output Variables	FTE
Aggregation Variables	Gender, Youth

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hex7_FTE_Youth_Gender.csv

Filename	hex7_FTE_Youth_Gender.csv
Short Description	Number of FTE Employees per Gender by Youth Indicators
Long Description	Number of FTE employees aggregated by gender and Youth Status per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE
Aggregation Variables	Gender, Youth

Metro_MedianIncome.csv

Filename	Metro_MedianIncome.csv
Short Description	Median Income
Long Description	Median Income per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE, median income
Aggregation Variables	N/A

Metro_MedianIncome_Industry5d.csv

Filename	Metro_MedianIncome_Industry5d.csv
Short Description	Median Income per 5 Digit Industry Code
Long Description	Median Income aggregated by 5-digit industry classification per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE, median income
Aggregation Variables	SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d

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Detailed Descriptions of Datasets

Metro_MedianIncome_Gender.csv

Filename	Metro_MedianIncome_Gender.csv
Short Description	Median Income per Gender
Long Description	Median Income aggregated by gender per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE, median income
Aggregation Variables	Gender

Metro_MedianIncome_Youth.csv

Filename	Metro_MedianIncome_Youth.csv
Short Description	Median Income by Youth Status
Long Description	Median Income by Youth Indicator per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE, median income
Aggregation Variables	Youth

Metro_MedianIncome_Youth_Industry5d.csv

Filename	Metro_MedianIncome_Youth_Industry5d.csv
Short Description	Median Income per 5 Digit Industry Code by Youth Status
Long Description	Median Income aggregated by 5-digit industry classification and Youth Indicator per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE, median income
Aggregation Variables	SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d, Youth

Metro_MedianIncome_Youth_Gender.csv

Filename	Metro_MedianIncome_Youth_Gender.csv
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Metro_MedianIncome_Youth_Gender.csv (*continued*)

Short Description	Median Income per Gender by Youth Status
Long Description	Median Income aggregated by gender and Youth Indicator per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE, median income
Aggregation Variables	Gender, Youth

hex7_MedianIncome.csv

Filename	hex7_MedianIncome.csv
Short Description	Median Income
Long Description	Median Income per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE, median income
Aggregation Variables	N/A

hex7_MedianIncome_Industry5d.csv

Filename	hex7_MedianIncome_Industry5d.csv
Short Description	Median Income per 5 Digit Industry Code
Long Description	Median Income aggregated by 5-digit industry classification per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE, median income
Aggregation Variables	SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d

hex7_MedianIncome_Gender.csv

Filename	hex7_MedianIncome_Gender.csv
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hex7_MedianIncome_Gender.csv *(continued)*

Short Description	Median Income per Gender
Long Description	Median Income aggregated by gender per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE, median income
Aggregation Variables	Gender

hex7_MedianIncome_Youth.csv

Filename	hex7_MedianIncome_Youth.csv
Short Description	Median Income by Youth Status
Long Description	Median Income by Youth Indicator per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE, median income
Aggregation Variables	Youth

hex7_MedianIncome_Youth_Industry5d.csv

Filename	hex7_MedianIncome_Youth_Industry5d.csv
Short Description	Median Income per 5 Digit Industry Code by Youth Status
Long Description	Median Income aggregated by 5-digit industry classification and Youth Indicator per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE, median income
Aggregation Variables	SIC7_1d, SIC7_2d, SIC7_3d, SIC7_4d, SIC7_5d, Youth

hex7_MedianIncome_Youth_Gender.csv

Filename	hex7_MedianIncome_Youth_Gender.csv
Short Description	Median Income per Gender by Youth Status

hex7_MedianIncome_Youth_Gender.csv (*continued*)

Long Description	Median Income aggregated by gender and Youth Indicator per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE, median income
Aggregation Variables	Gender, Youth

Metro_Gini.csv

Filename	Metro_Gini.csv
Short Description	Gini Coefficient
Long Description	Gini Coefficient per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	FTE, gini coefficient
Aggregation Variables	N/A

hex7_Gini.csv

Filename	hex7_Gini.csv
Short Description	Gini Coefficient
Long Description	Gini Coefficient per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	FTE, gini coefficient
Aggregation Variables	N/A

Metro_Establishments.csv

Filename	Metro_Establishments.csv
Short Description	Number of Establishments
Long Description	Number of establishments per metropolitan municipality recorded per tax year

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Detailed Descriptions of Datasets

Metro_Establishments.csv (*continued*)

Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	N/A

Metro_Establishments_Industry2d.csv

Filename	Metro_Establishments_Industry2d.csv
Short Description	Number of Establishments per 2 Digit Industry Code
Long Description	Number of establishments aggregated by 2-digit industry classification per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	SIC7_1d, SIC7_2d

Metro_Establishments_FirmSizeSARS.csv

Filename	Metro_Establishments_FirmSizeSARS.csv
Short Description	Number of Establishments per Firm Size (SARS definition)
Long Description	Number of establishments aggregated by firm size (as per SARS definition of holding firm size) per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	FirmSizeSARS

Metro_Establishments_EstablishmentSizeFTE.csv

Filename	Metro_Establishments_EstablishmentSizeFTE.csv
Short Description	Number of Establishments per Establishment Size (Number of employees definition)

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Metro_Establishments_EstablishmentSizeFTE.csv *(continued)*

Long Description	Number of establishments aggregated by firm size (as per number of FTE employees per establishment) per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	EstablishmentSizeFTE

Metro_Establishments_Export.csv

Filename	Metro_Establishments_Export.csv
Short Description	Number of Export Establishments
Long Description	Number of establishments aggregated by export status per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Export

Metro_Establishments_Export_Industry1d.csv

Filename	Metro_Establishments_Export_Industry1d.csv
Short Description	Number of Export Establishments and 1 Digit Industry Code
Long Description	Number of establishments aggregated by export status and 1-digit industry classification per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Export

Metro_Establishments_Export_FirmSizeSARS.csv

Filename	Metro_Establishments_Export_FirmSizeSARS.csv
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Detailed Descriptions of Datasets

Metro_Establishments_Export_FirmSizeSARS.csv (*continued*)

Short Description	Number of Export Establishments per Firm Size (SARS Definition)
Long Description	Number of establishments aggregated by export status and firm size (as per SARS definition of holding firm size) per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Export, FirmSizeSARS

Metro_Establishments_Export_EstablishmentSizeFTE.csv

Filename	Metro_Establishments_Export_EstablishmentSizeFTE.csv
Short Description	Number of Export Establishments per Establishment Size (Number of employees Definition)
Long Description	Number of establishments aggregated by export status and firm size (as per number of FTE employees per establishment) per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Export, EstablishmentSizeFTE

Metro_Establishments_Import.csv

Filename	Metro_Establishments_Import.csv
Short Description	Number of Import Establishments
Long Description	Number of establishments aggregated by import status per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Import

Metro_Establishments_Import_Industry1d.csv

Filename	Metro_Establishments_Import_Industry1d.csv
Short Description	Number of Import Establishments and 1 Digit Industry Code
Long Description	Number of establishments aggregated by import status and 1-digit industry classification per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Import

Metro_Establishments_Import_FirmSizeSARS.csv

Filename	Metro_Establishments_Import_FirmSizeSARS.csv
Short Description	Number of Import Establishments per Firm Size (SARS Definition)
Long Description	Number of establishments aggregated by import status and firm size (as per SARS definition of holding firm size) per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Import, FirmSizeSARS

Metro_Establishments_Import_EstablishmentSizeFTE.csv

Filename	Metro_Establishments_Import_EstablishmentSizeFTE.csv
Short Description	Number of Import Establishments per Establishment Size (Number of employees Definition)
Long Description	Number of establishments aggregated by import status and firm size (as per number of FTE employees per establishment) per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Import, EstablishmentSizeFTE

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Detailed Descriptions of Datasets

Metro_Establishments_MultiEstablishment.csv

Filename	Metro_Establishments_MultiEstablishment.csv
Short Description	Number of Establishments per Multi-Establishment Indicator
Long Description	Number of establishments aggregated by Multi-Establishment Indicator per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	MultiEstInd

Metro_Establishments_MultiEstablishment_Industry1d.csv

Filename	Metro_Establishments_MultiEstablishment_Industry1d.csv
Short Description	Number of Establishments per Multi-Establishment Indicator and 1 Digit Industry Code
Long Description	Number of establishments aggregated by Multi-Establishment Indicator and 1-digit industry classification per metropolitan municipality recorded per tax year
Spatial Level	Metro
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	MultiEstInd, SIC7_1d

hex7_Establishments.csv

Filename	hex7_Establishments.csv
Short Description	Number of Establishments
Long Description	Number of establishments per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	N/A

hex7_Establishments_Industry2d.csv

Filename	hex7_Establishments_Industry2d.csv
Short Description	Number of Establishments per 2 Digit Industry Code
Long Description	Number of establishments aggregated by 2-digit industry classification per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	SIC7_1d, SIC7_2d

hex7_Establishments_FirmSizeSARS.csv

Filename	hex7_Establishments_FirmSizeSARS.csv
Short Description	Number of Establishments per Firm Size (SARS definition)
Long Description	Number of establishments aggregated by firm size (as per SARS definition of holding firm size) per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	FirmSizeSARS

hex7_Establishments_EstablishmentSizeFTE.csv

Filename	hex7_Establishments_EstablishmentSizeFTE.csv
Short Description	Number of Establishments per Establishment Size (Number of employees definition)
Long Description	Number of establishments aggregated by firm size (as per number of FTE employees per establishment) per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	EstablishmentSizeFTE

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Detailed Descriptions of Datasets

hex7_Establishments_Export.csv

Filename	hex7_Establishments_Export.csv
Short Description	Number of Export Establishments
Long Description	Number of establishments aggregated by export status per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Export

hex7_Establishments_Export_Industry1d.csv

Filename	hex7_Establishments_Export_Industry1d.csv
Short Description	Number of Export Establishments and 1 Digit Industry Code
Long Description	Number of establishments aggregated by export status and 1-digit industry classification per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Export

hex7_Establishments_Export_FirmSizeSARS.csv

Filename	hex7_Establishments_Export_FirmSizeSARS.csv
Short Description	Number of Export Establishments per Firm Size (SARS Definition)
Long Description	Number of establishments aggregated by export status and firm size (as per SARS definition of holding firm size) per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Export, FirmSizeSARS

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hex7_Establishments_Export_EstablishmentSizeFTE.csv

Filename	hex7_Establishments_Export_EstablishmentSizeFTE.csv
Short Description	Number of Export Establishments per Establishment Size (Number of employees Definition)
Long Description	Number of establishments aggregated by export status and firm size (as per number of FTE employees per establishment) per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Export, EstablishmentSizeFTE

hex7_Establishments_Import.csv

Filename	hex7_Establishments_Import.csv
Short Description	Number of Import Establishments
Long Description	Number of establishments aggregated by import status per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Import

hex7_Establishments_Import_Industry1d.csv

Filename	hex7_Establishments_Import_Industry1d.csv
Short Description	Number of Import Establishments and 1 Digit Industry Code
Long Description	Number of establishments aggregated by import status and 1-digit industry classification per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Import

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Detailed Descriptions of Datasets

hex7_Establishments_Import_FirmSizeSARS.csv

Filename	hex7_Establishments_Import_FirmSizeSARS.csv
Short Description	Number of Import Establishments per Firm Size (SARS Definition)
Long Description	Number of establishments aggregated by import status and firm size (as per SARS definition of holding firm size) per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Import, FirmSizeSARS

hex7_Establishments_Import_EstablishmentSizeFTE.csv

Filename	hex7_Establishments_Import_EstablishmentSizeFTE.csv
Short Description	Number of Import Establishments per Establishment Size (Number of employees Definition)
Long Description	Number of establishments aggregated by import status and firm size (as per number of FTE employees per establishment) per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	Import, EstablishmentSizeFTE

hex7_Establishments_MultiEstablishment.csv

Filename	hex7_Establishments_MultiEstablishment.csv
Short Description	Number of Establishments per Multi-Establishment Indicator
Long Description	Number of establishments aggregated by Multi-Establishment Indicator per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	MultiEstInd

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Detailed Descriptions of Datasets

hex7_Establishments_MultiEstablishment_Industry1d.csv

Filename	hex7_Establishments_MultiEstablishment_Industry1d.csv
Short Description	Number of Establishments per Multi-Establishment Indicator and 1 Digit Industry Code
Long Description	Number of establishments aggregated by Multi-Establishment Indicator and 1-digit industry classification per Uber H3 equal area hexagon recorded per tax year
Spatial Level	Equal Area Hexagon
Temporal Level	Tax Years
Output Variables	Establishments
Aggregation Variables	MultiEstInd, SIC7_1d