



VENICE PROJECT CENTER

Tourism in the city of canals

Managing Venice's Love-Hate Relationship with its visitors

An Interdisciplinary Qualifying Project Submitted to the faculty of Worcester Polytechnic Institute
in partial fulfillment of the requirements for the Degree of Bachelor of Science.

Student Authors:

Alexander Gorowara

Aquame Matthews

Daryn Russo

Armagan Sezer

Project Advisors:

Professor Fabio Carrera

Professor Frederick Hart

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<https://sites.google.com/site/ve13demographics/>

ve.13demo@wpi.edu

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Authorship

Each team member's contribution to this project was essential and would not have been successful without the hard work of each member and the collective work of the team.

Alexander Gorowara

Aquame Matthews

Daryn Russo

Armagan Sezer

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Abstract

Over the course of our stay in Venice, we examined the magnitude and impact of a number of aspects of tourism to the historic city, as well as some characteristics of the city which affect and are affected by tourism. For local phenomena, we worked with the Venice Statistics Office to produce analyses of the city's population over the course of several decades of census data and examined data on local stores, provided by past research groups attached to the Venice Project Center, to arrive at a conclusion which related the health of the local retail environment to the support of Venice's tourist population. We measured the magnitude of cruise ship arrivals and airplane arrivals, and worked on longitudinal data on hotels. In addition, we created tools which respond to publicly available data to automatically estimate the numbers of tourists entering the city by airplane and by cruise ship.

Executive Summary



1. Introduction

In the great historic cities of the world, tourism is a mixed blessing. Tourists can powerfully drive the local economy as visitors throw money at hotels, restaurants, and souvenir shops, to name a few. On the other hand, the relentless stampede can prove detrimental to the comfort of locals as they storm every nook and cranny of the city, transforming the landscape with their much needed purchasing power. The World Travel and Tourism Council estimates that the direct impact of tourism alone provides a benefit of US \$2.1 trillion to the world's GDP, and that number is only expected to rise as citizens of fast-growing. This is portrayed in the large increase of tourists coming out of the "BRIC" countries: Brazil, Russia, India, and China. These nations, still developing economically, are now finding the revenue to travel abroad. As you can see in the graph provided below, five years ago, 15.9 million Russians and 13 million Chinese went on trips abroad. According to the latest surveys, 23.8 million Russians and 18.3 million Chinese (not counting trips to Hong Kong and Macau, which remain the most popular destinations) travel abroad. During the period surveyed, Russian travel rose by 50 percent, while Chinese travel grew by 41 percent (ITB Berlin). Tourism in the BRIC countries has been driving tourism worldwide, which has continued to grow persistently despite global economic downturns (Library 2013), and will likely continue to do so for many years to come. However, the news is not entirely positive. The presence of tourism is a strong economic boon, but its powerful financial influence threatens to edge out other economic activities competing for space and opportunity. Shops which fail to profit by serving local customers are replaced by tourist-oriented businesses, hungry for a piece of the vast wealth flowing through the area. The entire economy begins to turn away from serving its citizens, and instead focuses on serving its visitors. After all, the latter are far more profitable. Additionally, tourism can damage a locale by other means. There is, of course, the inevitable congestion associated with crowding large numbers of people, many of them more intent on basking in the history of the area than on getting to any particular destination, into a particularly popular area of a small city. There is the possibility that tourists may cause an incident embarrassing foreigners and locals alike. There have been several high-profile incidents of tourists defacing historic objects of unmatched value. In one instance a Chinese teenager carved his name into an ancient Egyptian temple and an American even broke off the finger of a statue in Florence. All of the effects, positive and negative, are magnified in Venice, where the population is so small that the growing tourist throngs threaten to eclipse it. For a millennium, this historic city has been a gateway to Europe, using its maritime location as a center of trade and travel. In the past couple centuries, however, its focus has shifted from trade to tourism, its grand monuments and majestic cityscape attracting visitors from every corner of the globe. So integral is tourism to the City of Canals that some estimates place it as responsible for up to 70% of its economy and 50% of its employment (Bahlatzis 2013). The cruise industry alone, according to the Venice Port Authority, is responsible for 6,000 jobs (Poggioli 2013) and employs 10% of the city. However, this massive involvement in tourism is not without cost. Apartments in Venice cost hundreds of Euro more than apartments elsewhere in Italy, and have the fifth highest housing costs of any city in the nation (2013). As the costs of living in Venice rise, the pressures of tourism on the everyday life of Venetians become more intense. The population of Venice is dropping, with annual growth rates on the order of half a percent (Bureau) being clobbered by decreases around two percent (Statistica). These numbers can be seen in the census that is done every 10 years. In these

censuses questions such as location, gender, age, and occupation are asked which can be used to analyze the city in a wide variety of ways. If today's tourism numbers are troubling, the future may be even more worrisome. The trends in tourism growth (23% growth from 1998 to 2008(Library 2013)) and a predicted annual growth rate of a %0.47 by the year 2040(Bureau)) indicate that the imbalance between the demands of tourism and the needs of the city will only grow. Venice has been a main topic for research focusing on the effects of tourism. One idea is that every location has a "socioeconomic carrying capacity," (Russo 2002). This means that there is a total number of tourists that the city can accommodate, after which the city itself would suffer from any additions. Russo highlights that the total number of individuals Venice can absorb it approximately 22,500 per day, with no more than 10,700 coming for one day. These limits were surpassed in 1987, for 156 days of the year, and this number is still

increasing. While some small measures have been taken to slow the increase in tourism, such as the application of a minor hotel tax in 2011, the industry is expected to continue its strong growth, which has persisted throughout economic downturn and political controversy. Meanwhile, the population of local Venetians is dropping at alarming rates – over 14% over the

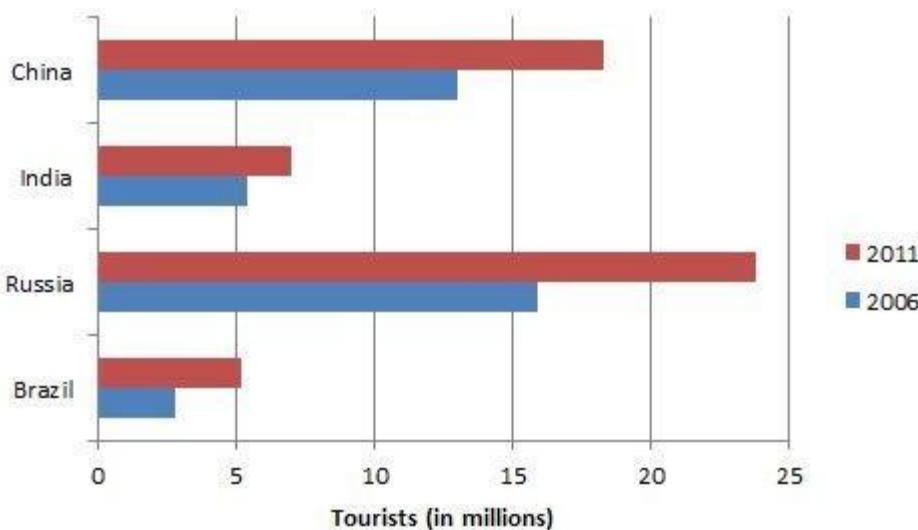


Figure 1 BRIC Countries Rise in Tourism 2006 to 2011

span of a decade – as the city devotes more and more resources to its visitors at the expense of its citizenry. This sparks the question of “What impact is all this tourism having on the locals and Venice itself?” In the past 25 years of research done by Worcester Polytechnic Institute students in Venice, the focuses have been on such things as artwork, buildings, and canals, but very few have studied the relationship between the locals and the tourist or the impact of tourism on this scale. IQPs that come closest to providing information related to this project focus on the evolution of the stores in the city and the increased cost of living. Although these IQPs provide data pertinent to the relationship between locals and tourists and its impact, it isn’t the main focus of the projects, leaving that information somewhat unexplored. Our project will focus on that unexplored region relating causes and effects. Our mission in Venice is to gather and analyze information on the changing population and interactions within the city to arrive at a better understanding of the impact of tourism on its inhabitants and the city of Venice as a whole. Part of our research activity will consist of data collection, but another significant portion will be developing tools for future projects to use in order to facilitate the future collection of comprehensive data. This should substantially improve the comparability of different data sets;

the challenge of comparing data from two different districts in two different years disappears when, instead of restricting themselves to a single district, each project team has the ability to capture data on all of Venice with ease. In order to further our mission, we have set forth a set of objectives. These include researching and analyzing the local population to gain some insight to the reasons for its decline, analysis and estimation of the number of tourists coming into the city via various modes of transportation, and lastly exploration of the impact the local population and tourists population on the stores in Venice. The objectives will focus our efforts on gathering comprehensive and relevant data, thanks in no small part to the data gathered by past groups which allows us to narrow our focus in this way. It is our hope that fulfilling our mission will provide the understanding necessary to make a broad set of recommendations to the people and the government of Venice in order to keep the city's tourism at comfortably sustainable levels. In the best-case scenario, our project will offer a more general insight into the problems posed by tourism in cities around the world.

2. Demographics

Venice and its population decline aren't new topics. They have been in the public eye to one extent or another for many years, and the population trends in the City of Canals show no signs of stopping. As seen below, this decline has been occurring for decades and has nearly halved the city's population in less than half a century.

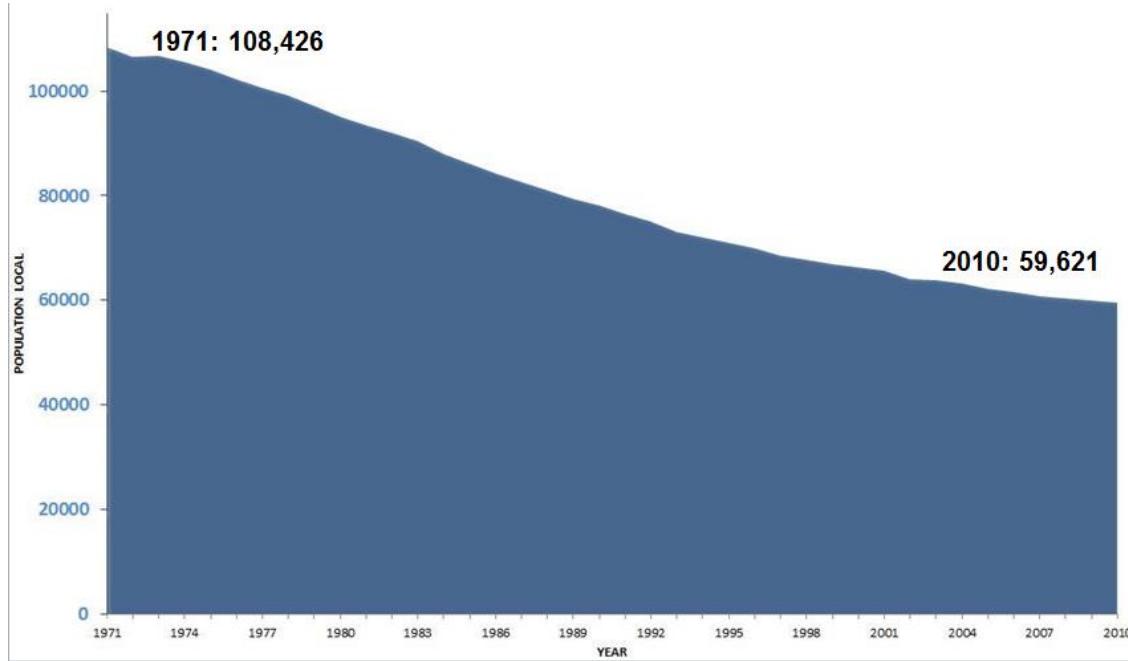


Figure 2 Local Population 1971 to 2010

Though the trend is well-documented as only comprehensive census data can be, distinguishing which of many potential causes are responsible is a major challenge. Is the driving force as simple as an influx of tourists which literally crowd the locals out of their own city? Has a declining quality of life sent Venetians searching for greener pastures? Or are there factors at work which we have not yet considered, either alone or in concert? We hope to put Venice under the microscope and shed some light on the workings of this phenomenon.

As a part of our project we worked with the Venice statistics office (Comune di Venezia), which supplied us with data on the decennial census of the city. Armed with this data, our focus was to characterize the trends in population in the years for which we had information, namely 1971 to 2001. Some of the data was incomplete, forcing us to make inferences based on the parts we already had. Before our arrival in Venice, we had access to the census data from 1981 to 2001; we received the 1971 data only after we made contact with workers in the statistics office.

We became familiar with the graphics program QGIS, a “geographic information system”, and used it to present the vast quantities of data we had received in an intuitively comprehensible form. In order to do this, however, we first had to compile and translate the materials we obtained through the statistics office. These materials were organized into census tracts, semi-arbitrary geographical subdivisions of the city arranged for statistical convenience.

After analyzing all the census tracts and acquiring all population numbers for the years of 1971 to 2001, it was evident that the local population declined by forty-five percent over the four decades. We also recognized that the population was growing older. Using our previous knowledge of QGIS we started make new maps for 1971 and 1981 which were not available to us from the Venice statistics office. We also started to analyze and translate new data we were given. The spreadsheets and numbers we decided were most useful to focus on include population, age, education, employment status, and type of work. We will go into depth next on what we did with that data in the methodology.

2.1 Census Data

We examined census data in order to produce clear and sensible graphics which explained the changing demographic environment of Venice. Using a variety of formats and data sets, we provided displays not only for the changes in the size of the population, but also for its aging character as tracked over thirty years.

2.1.1 Creating Census Tracts and Maps

In order to show the population trends we first needed to acquire the proper census tracts for each year. We began our data analysis by taking stock of the census data which we were given and realized we were not given complete data or the same data sets for each year the census was taken. It also became apparent we only had census tracts for 1991 and 2001 and we were going to have to recreate the 1981 and 1971 tracts. The difficulty here was due to the fact that census tracts do not remain constant from year to year, and as such may increase in number as existing census sections are rearranged and split. For example, the 1971 census broke the city down into 139 sections, the 1981 census split it into 152, the 1991 census had 1152 census sections, and the 2001 census had 1234. The boundaries of the census tracts of varying years are shown below. For the year 1981, for example, we combined the partial data we had on 1981 census tracts with the complete data we had on 1991 census tracts to make what the original 1981 census tract looked like and where the individual sections were located.

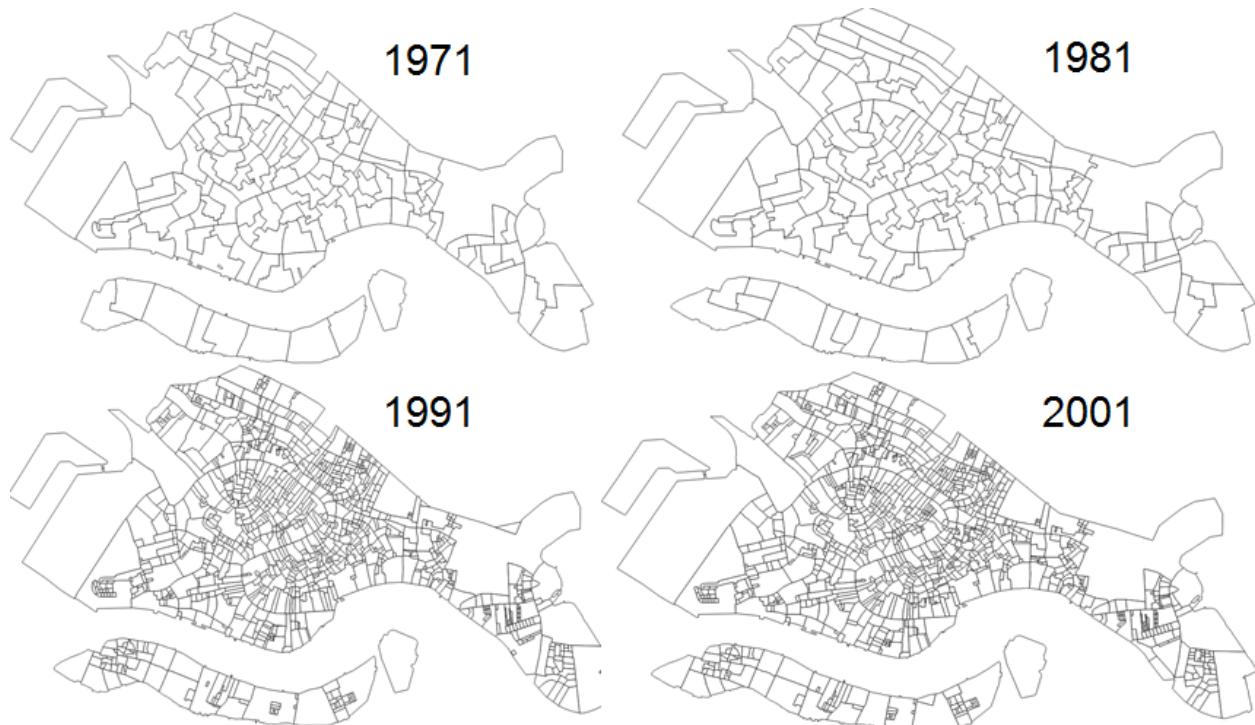


Figure 3 Census Tracts 1971 to 2001

2.1.2 Working With Census Data

We used publicly available census data for the years 1981, 1991, and 2001, obtained from comune.venezia.it, provided to us in the form of Microsoft Excel spreadsheets. On these spreadsheets, the data was indexed both by census tract, section, and by sestiere or region. The most useful data available to us in each year was the total population per tract or sestiere. This data was expressed in a number of ways, including the average number of inhabitants per dwelling, the total number of families, the number of residential kitchens, and a few other quantities provided for each census tract. Other useful data sets include the population by age group, level of education, employment status, and area of work.

We chose this data because, unlike narrower measures, it provided a large-scale picture of the city which less subject to external factors specific to single topics, such as economic fluctuation within a single industry.

2.2 Population Trends

The local population has declined by forty-five percent from 1971 to 2001. There was about thirty thousand locals that left the island of Venice during this time. We highlighted these trends by manipulating and analyzing the census data we acquired for these four decades.

2.2.1 Population Density

While plotting population against time certainly reveals that there is a decline in population, it doesn't get much more informative than that. The first tool we used to graphically examine the population trends in Venice was the dot map, a graphic in which each person is

represented by a single dot and placed within the section based on population density in that section. You can see the differences in population below.

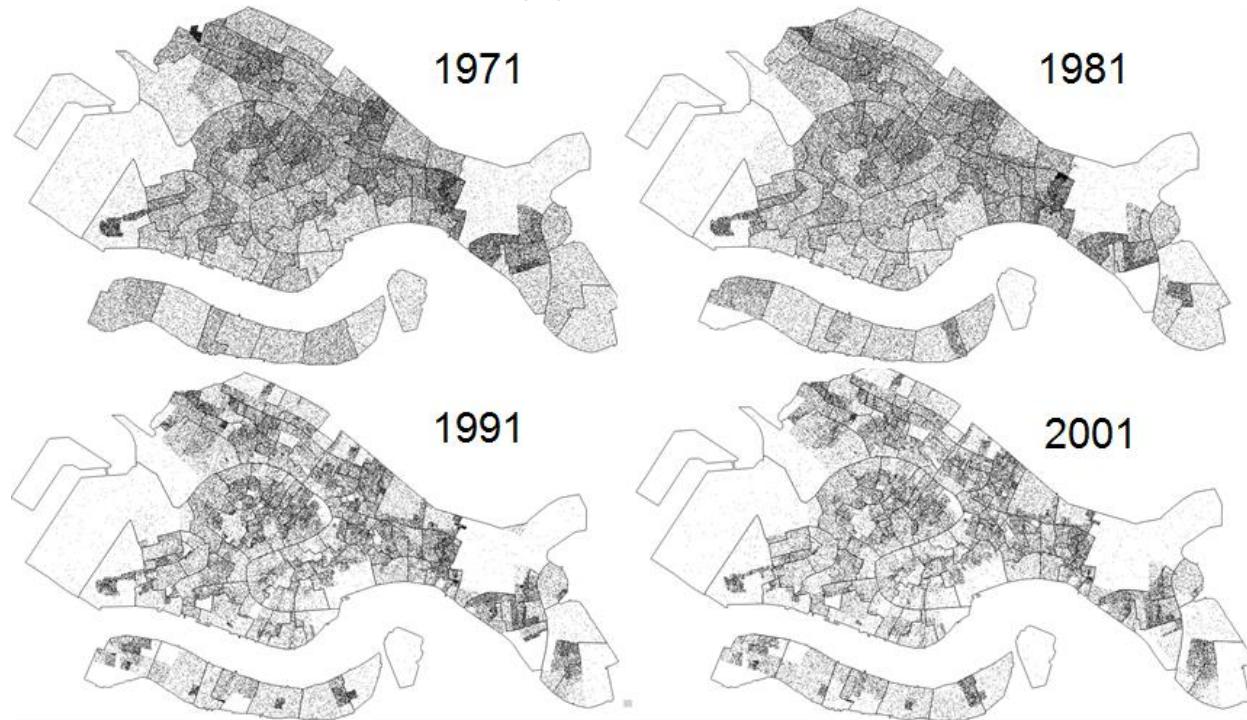


Figure 4 Dot map of population density (1971 to 2001)

Individually, each of these maps can show us which areas are most preferred by locals, as they have the highest population density, in contrast to tourist-heavy areas such as Piazza San Marco. Additionally, by looking at these maps in series and comparing how different areas of the map lighten at different rates, we can see which parts of the city were more effected by the decrease in population. This allows future groups to target their efforts based on which census tracts are or have been undergoing major changes, rather than blindly blanketing an area which has been partially static for the past several decades.

2.2.2 Population By Sestiere

The island of Venice is broken into seven main sestieri, or regions. These sestieri are similar to boroughs in New York City like Manhattan, the Bronx, and Staten Island. Venice's main "boroughs" are Cannaregio, Castello, Dorsoduro, Giudecca, San Marco, San Polo, and Santa Croce. After analyzing the dot maps, we decided it would be beneficial to show the loss in population by sestiere to help better visualize and understand the loss in population.

This graph is a representation of the sestiere population by year. Each dot shows the population for a specific year and sestiere, based on where it is with respect to the corners and the lines. For example, in 1971, Cannaregio had a population of about 30,000 and Giudecca had a population of about 15,000. The graph shows a nearly linear decrease in population in all sestieres for every year the census was taken. The biggest losses were in the 1970's and 1980's and became less drastic in the later years. One thing that stand out is that between 1991

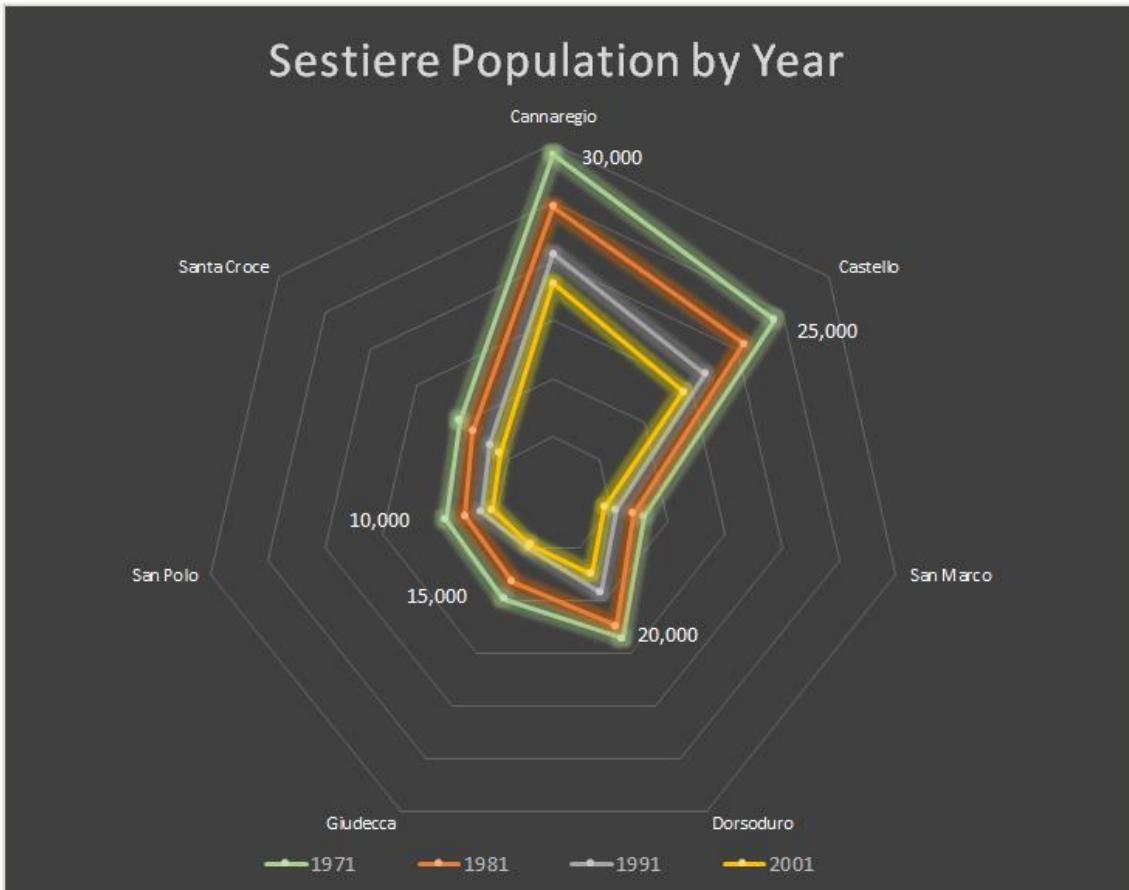


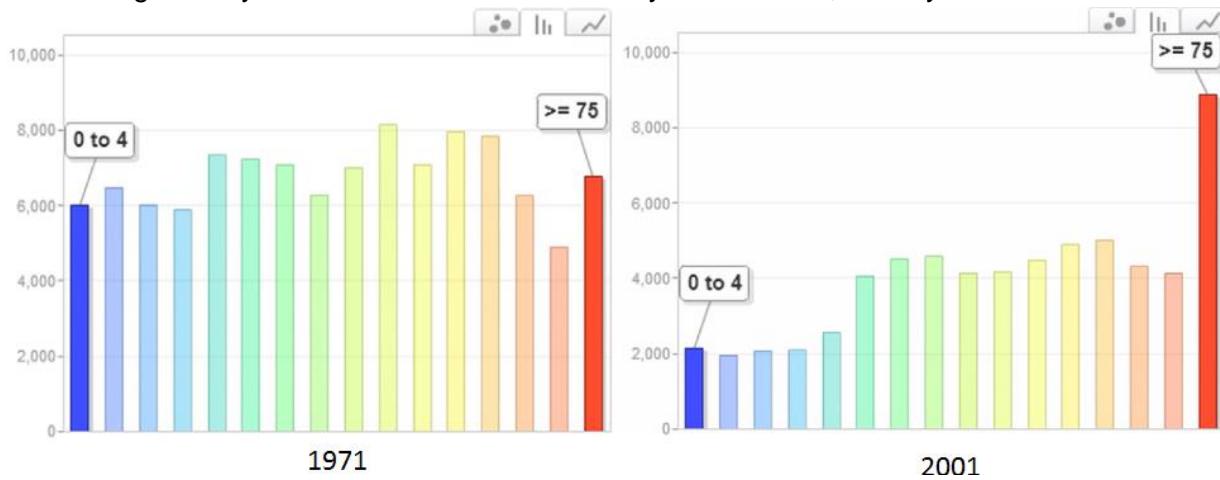
Figure 5 Local Population by Sestiere

and 2001, Giudecca experienced only a very small loss in population. This anomaly informed our later efforts to analyze the population loss in general.

2.2.3 Aging Population

In addition to the size of the population, we decided to analyze the composition of the population in terms of age. Below, the number of persons per age group is displayed, from

children aged 0-4 years to senior citizens with 75 years or more, in the years 1971 and 2001.



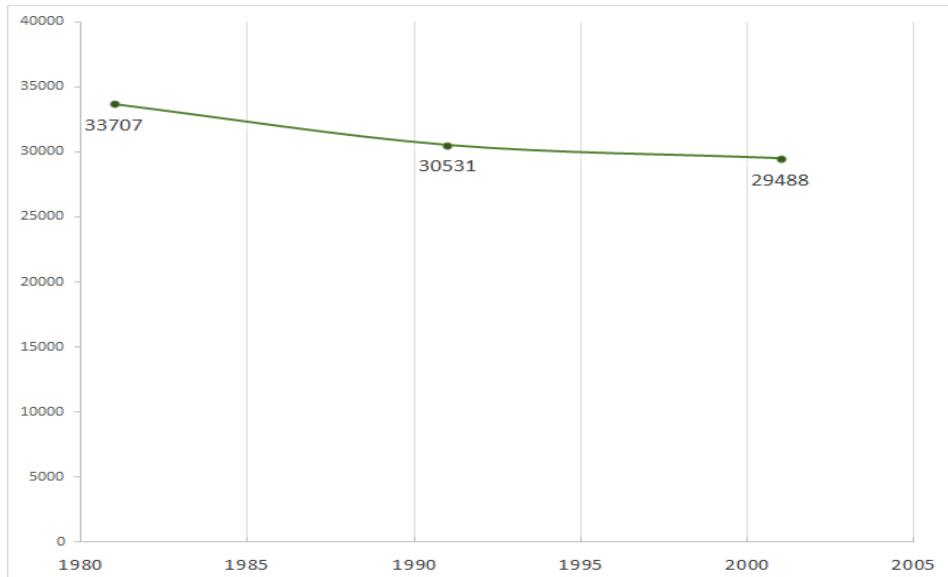
[Figure 6 Motion Chart Still Showing Aging Population](#)

The two charts are dramatically different, not only because all but one of the age groups has lost people, but also because a great imbalance among the age groups has developed. While the younger generation disappeared over thirty years, the older generation grew - the only age group to do so. The fact that Venice is growing older indicates that its population problems will not be going away anytime soon, as it may lack the youth to start recovering on its own.

2.2.4 Families and Dwellings

Further data analysis raised a couple of intriguing points. First, despite our expectations, the number of families in Venice did not decrease as dramatically as the population did. Only data from 1981, 1991, and 2001 was available, but barring a massive change in the pattern, it looks safe to conclude that a drop in the number of families was not the only factor at work here.

Figure 7 Number of Families Stays Relatively Stagnant



While the number of families dropped by about 4000, the total population dropped by around 30,000 people during the same period, a change far more dramatic than the change in the number of families alone would predict.

The second point of interest is the fact that the number of rooms per dwelling, represented in blue below, stayed more or less constant. At the same time, the average number of occupants per dwelling, shown in orange, dropped by only half a person.

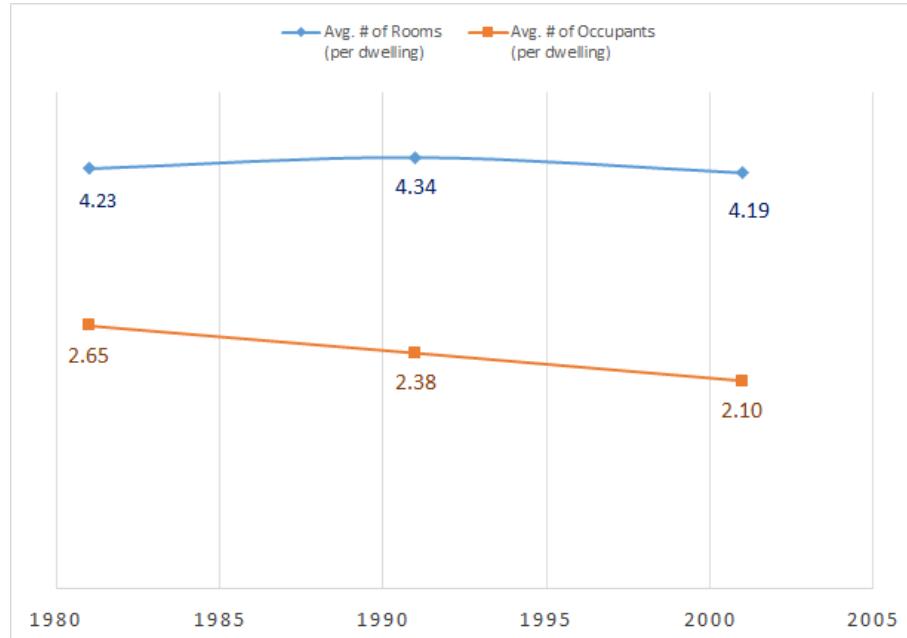


Figure 8 Size of Dwelling and Average Number of Occupants Barely Decreases

The lack of dramatic changes in these indicators of population is somewhat mystifying. Are there a number of other factors at work, or are these relatively small changes enough to add up to a big difference? If not, what numbers should future research focus on to explain the trends in population?

2.2.5 Affordable Housing

The only reasonable explanation we can find for such losses in population is that housing on Venice is not available or cheap. Looking back to our dot maps we observed a place in Giudecca that managed to keep its population as you can see below.

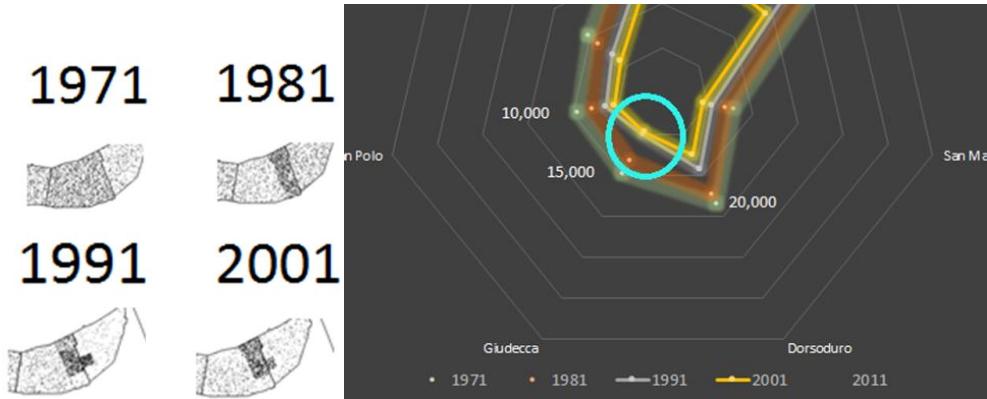


Figure 9 Giudecca Holds Population From 1991 to 2001

Looking back to the sestiere population graph is showed giudecca did not lose much population between the same years our dot maps are showing. We came to learn that during the years between 1991 and 2001 affordable housing was made available in that section of Giudecca. This shows there is a demand for housing in Venice but it is not cheap and readily available. If it were to be made available this might cause in an increase in local population on the island.

2.3 Recommendations

We were not able to add the 2011 census tracts into our datasets because it is currently not available to the public. The analysis of the 2011 population trends would have been a perfect way to see if the trends observed by our group is continuing and if Giudecca is still retaining its population due to its affordable housing.

3. Tourism

Venice has always been a place of visitors, ships and historical artifacts, all of which contribute to how Venice is portrayed today. But this has caused a transition from a trade city to a tourist city. In fact Venice has become so dependent on tourism that the businesses that aren't tourist oriented tend to have a much harder time staying open. This transition to tourism is not solely beneficial; there are many downsides to it. In the end, many are seeing Venice as an amusement park rather than a city. One of the surest ways of estimating the number of tourists in the city is to count them as they enter, as the entry points to the city are both limited and more or less public, allowing for comprehensive and uncomplicated data collection. Though there are multiple ways of entering the city, there are two on which we focused during our time in Venice: cruise ships and airplanes.

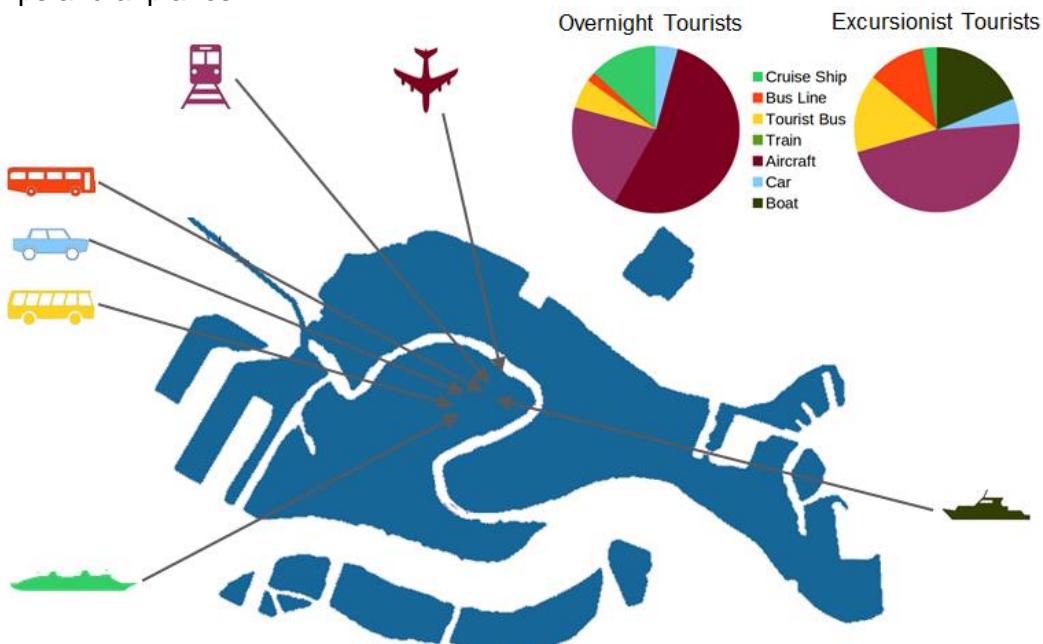


Figure 10 Modes of entry into Venice

Subtitle for graphic above: Tourists converge on the city through a variety of methods. The COSES report (COSES 2009) provides data on multi-day (overnight) and single-day (excursionist) tourists and their methods of entry.

Take note that the number of overnight tourists given above denotes the number of tourists in the city on a given day, rather than the number of overnight tourists arriving on a given day. One tourist who stays for four days will contribute two times as much to this estimate as one tourist who stays for two days.

3.1.1 Cruise Ships

Cruise ships play a major role in the tourism industry for Venice and therefore plays a major role in its economy. Cruise ships provide 1,600 direct jobs in services for the ships and passengers, 2,600 jobs in supplies, maintenance, repairs, bunker sales, etc., and 1,270 direct jobs created by tourist spending in Venice which comes out to at least €363 million a year(Cocks 2013). However there are worrisome issues too. The cruise ships are increasing in numbers and in size. Now most are over three times the length of an American football field and double the gross tonnage of the titanic(Cocks 2013). Back in 1997 there were only 206 cruise ships entering the port of Venice. That number hit 655 in 2011 and continues to grow(Cocks 2013). All these ships are contributing to polluting the air, shaking the houses, and displacing

water up into the canals. The 200,000 cruise ship tourists embarking in Venice in 1990 became 337,000 in 2000, one million in 2007, and reached 1.8 million in 2011(Cocks 2013). These rising numbers are contributing to the overpowering presence of tourists in the city throwing the lives of locals into chaos. In January of 2012 the Costa Concordia went aground off the coast of Tuscany killing 32 people, this along with a host of other incidents like the death of a professor of criminal law who was crushed against a dock by a reversing vaporetto water bus have tensions high(Roberts). The situation will only get worse; the number of berths in the Venice port has been increased so that it can now take eight large ships at a time (Cocks 2013). This means that the number of tourists in the city will be even greater than before.

3.1.2 Airplanes

Airplanes are special among the various methods of entry to the city in that they have a worldwide range, bringing people from all parts of the world. However, not everyone who comes to nearby airports by plane is a tourist, which is one of the complications which we overcame through data collection. And almost nobody comes from a distance far away to make an airplane a reasonable method of travel only to leave the city the very next day, so there are a negligible number of excursionists (day trippers) who come by plane (COSES 2009). These characteristics combine to bring a unique population of tourists to Venice, a group which must be counted and handled in its own particular way.

There are four methods of making one's way from Venice's Marco Polo Airport to the historic city: bus, taxi, water bus, or speedboat taxi. The former two methods take tourists on a ground trip from the terminal across the land bridge into the city, depositing them at the Piazzale Roma. The latter two are as close to uniquely Venetian as travel can get, bringing tourists across the water and to Venice's shore at one of its many docks. The fact that there are multiple ways to get from the airport to Venice, and a number of paths that lead away from the airport without so much as passing by the City of Canals, makes data collection challenging, but not impossible.

3.1.3 Hotels

The number and capacity of hotels provide a good look at the magnitude of Venice's overnight tourism. Hotels do not spring into existence without demand, so there must be enough overnight tourists to fill a substantial portion of their combined capacity for at least some part of the year. And while some tourists choose less formal arrangements, such as a bed-and-breakfast or a short stay with relatives, the number of beds in the city is a soft cap on the number of outsiders who can stay in the city at any given time. As a result, examining Venice's hotel capacity is a good way of examining its overnight tourist presence.

3.2 Estimating Tourists via Cruise Ship and Airplane

While there are many vehicles of entry, there are three categories of travel: land, air, and sea. We decided to focus our efforts on two specific methods of arrival: cruise ships and airplanes. An incidental benefit of this decision was that our data collection encompassed two of the three most popular methods by which overnight tourists arrive in Venice, composing approximately two-thirds of such arrivals (COSES 2009).

In addition to simply collecting data on these two sources of tourism, we were tasked with designing an automated system to provide day-to-day information to the public, which

required us not only to figure out how many people were entering during the time of our research, but also to extend our findings to provide trends off of which our applications could work.

3.2.1 Real Time Cruise Ship Estimates

One aspect of tourism in Venice comes from cruise ships. To estimate the number of



Figure 11 Ship widget

tourists that enter Venice on a cruise ship on any given day we created a widget that is featured on the dashboard. This widget give us a real time estimate of the number of tourists that came into the city via cruise ships. In order for this to work we needed to collect data from 3 different sites to make a mashup of the information.



Figure 12 Three sites used to populate ship widget VTP,travelocity, and Wikipedia

First to calculate the number of ships in port at any time we had to go to the VTP or Venezia Terminal Passeggeri which has a schedule of all the ships coming into the port of venice. Second to calculate the number of passengers on those ships we had to go to the site travelocity to, on travelocity there is a very comprehensive database relating ship names to their passenger capacity. Here we connected the ship names which were obtained from the VTP with

their capacity to get an estimate of the number of tourists each ship would bring. Then we had to go to either the cruise lines homepage or Wikipedia to access the last piece of information which is the number of crew members on each ship in port because the crew could get off the ships thus adding to the total number of tourists. In the end the total number of tourists is the combination of the passengers and crew. The number of ships and tourists expected this week are calculated the same way that the real time numbers, the only difference is the script used to calculate them go forward 7 days on the VTP schedule.

3.2.2 Real Time Airplane Estimates

Our first step in doing real-time estimates of any airplane activity was finding a way to estimate arrivals to the city. Though a number of online resources offer updates on arriving flights, for its international scope and accessibility to automated tools we chose to use the website “flightradar24.com”. We set up a script to read its list of newest arriving flights on an hourly basis, and store it so that other tools could examine flight data from any interval of time as needed, though our application relies only on data from the last twenty-four hours. In addition to the arrival time and departure city of each flight, flightradar24.com provides the name of the airline and the type of aircraft, though its abbreviated names may not always match those provided by the airline.

Sched.	Flight	From	Airline	Aircraft
16:20	KL1655	Amsterdam (AMS)	KLM	A338
16:50	A54526	Lyon (LYS)	HOP!	CR7
16:50	U21863	Manchester (MAN)	EasyJet	A319
17:00	U24465	Lyon (LYS)	EasyJet	A319
17:15	BA2584	London (LGW)	British Airways	B734
17:30	AF1226	Paris (CDG)	Air France	A320
17:30	LZ673	Tirana (TIA)	Belle Air	A319
17:35	LH328	Frankfurt (FRA)	Lufthansa	A321
17:40	U25267	London (LGW)	EasyJet	A319
17:40	DY1856	Oslo (OSL)	Norwegian	B733
18:20	TK1869	Istanbul (IST)	Turkish Airlines	A320
18:25	AZ1467	Rome (FCO)	Alitalia	A319

Figure 13 Screenshot of flightradar24.com's Marco Polo Airport arrivals

Once we had a list of the most recent arriving flights, the next task was determining how many people each flight was carrying. First, we took a sample of arriving flights and their number of passengers from the data on the website “flightstats.com”. Our sample revealed that most flights were mostly full, giving us the go-ahead to act as if the number of passengers on a flight and that flight's capacity were roughly the same. Online resources such as “seatmaestro.com” provided information on the capacity of each flight, which differs among

different types of aircraft and depends on how the airline which owns it configures seating. Once we had a list of the vast majority of airline/aircraft combinations coming into Venice and their seating capacities, we could begin manual data collection.

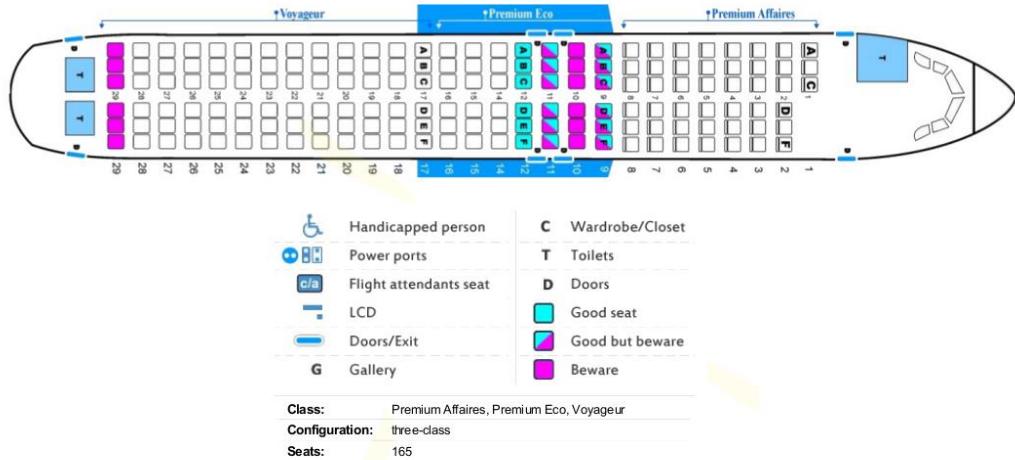


Figure 14 Seat map of an Air France A320 Airbus, provided by seatmaestro.com

Our data collection consisted of distinguishing tourists from locals and recording their numbers as they left through the four ways to Venice mentioned above: bus, taxi, water bus, and speedboat taxi. Later in our data collection, we determined that the numbers of tourists going to Venice via water bus was an exceptionally good predictor of the total number of tourists going to Venice from the airport (via all four routes), so we focused our efforts on the water bus stop in order to make additional hours of data collection more feasible.



Figure 15 One member of the team counts tourists at the docks



Figure 16 Another member of the team counts the number of tourists entering by taxi

Over the course of our stay at the airport, we counted over three thousand tourists, spent forty-eight person hours at the airport, and got pulled over to talk to security at least once. We would like to thank security officers and dock workers at Marco Polo Airport for being very understanding and for accommodating our research.

Provided Hotel Data

We were given the appropriate hotel data by members of the Venice Project Center, including Professor Fabio Carrera and the 25th Anniversary Team. While we cannot cite them directly as their report has yet to be released at the time of this writing, we would like to thank them for their cooperation encourage interested readers to refer to their report in the future.

3.3 Analyzing Tourist Trends

3.3.1 Trends in Airline Tourism

Each of those 3000 tourists was recorded at a specific time, and was then grouped into intervals of a half-hour each. This gave us the data we needed to plot a relationship between the number of incoming tourists and time.

When we plotted the data on arriving passengers in the same way, we were able to compare the number of arriving passengers to the number of tourists that arrived shortly afterwards. (There is a delay between a plane landing and its passengers making their way to their mode of transport to Venice, justified by the time taken to disembark, collect luggage, clear customs, and walk to the appropriate stop). Below is a graph of the two relationships, each scaled to a range between zero (no arrivals) and one (maximum arrivals), showing their similarity.

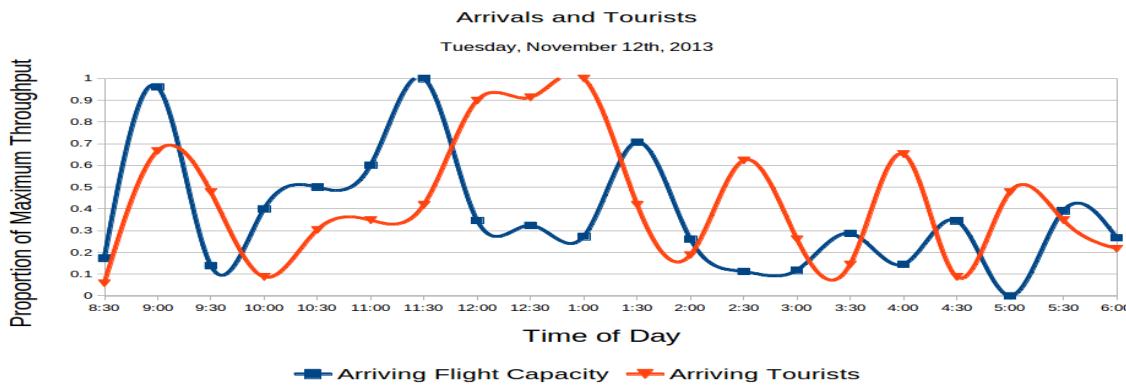


Figure 17 Incoming flight data and observed tourist counts, scaled between zero and one, from Tuesday, November 12th, 2013

We found that, regardless of the time of day (or, in later data collection, the day of the week), there was a roughly constant ratio between the number of tourists arriving at one of the modes of transport to Venice, and the number of passengers that had arrived recently. A rise in the number of arriving passengers was generally followed by a rise in the number of arriving tourists by a similar factor. We estimated this ratio to be roughly one tourist for every eight passengers, and that it was independent of time.

Using this ratio, and the same online resources that we had used to collect data during our observations, we were able to design a widget in the dashboard which estimated the number of arriving tourists coming in by airplane each day. While we were limited in our restriction to a single season (we did not have the opportunity to collect data during the summer rush), we are confident in the predictive ability of this new tool.

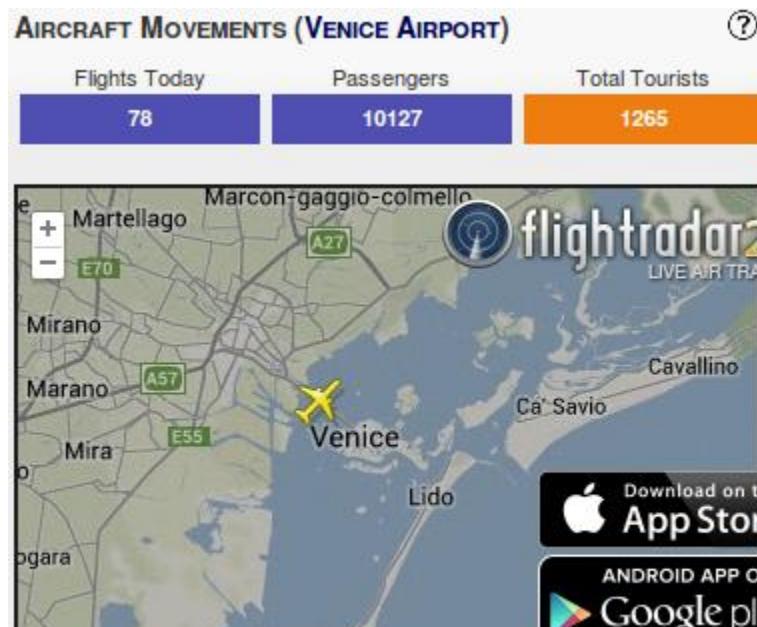


Figure 18 The completed widget on the Dashboard, providing automatically updated information

3.3.2 Trends in Cruise Ship Tourism

Running the widget on the dashboard for about 2 months returned a total of 78,577 passengers. Split between November coming in at 76,179 passengers and December coming in at 2,398 passengers 2 things are apparent. 1 the number of cruise ship tourists is increasing which we know to be true looking at the past yearly totals of cruise ship passengers and the staggering increases they have seen. 2 the tourist cycle for Venice hits an extraordinarily low point in December which is due in part to christmas and the temperature being low.

Recent Trends in Hotel Capacity

Over the period of a decade, the number of hotels has increased by more than a factor of five, to a total of over 1,500 structures, and their combined capacity has increased by more than a factor of two, to over 22,000 beds. In addition, their spread over the area of the city has resulted in an increased concentration of hotel structures, which may be a cause for concern as real estate is repurposed for their needs.

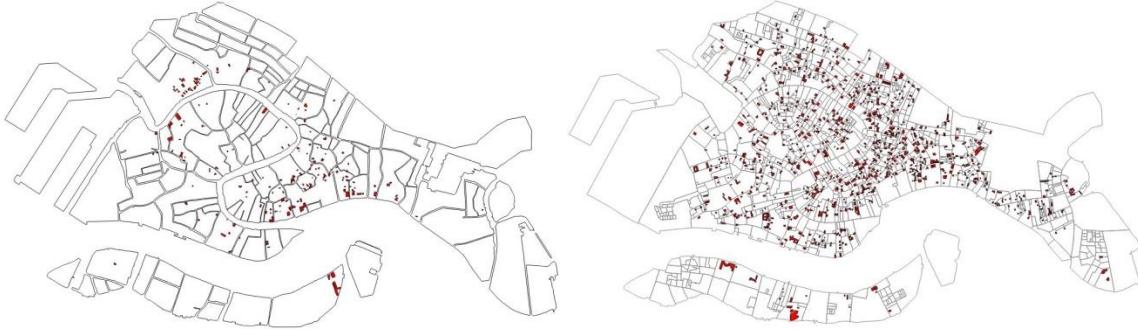


Figure 19 The positions of hotels in Venice in 1999 (left) and 2008 (right)

However, there may be some encouragement for those who worry about the domination of hotels.. While the number of hotels grew by over 400%, the number of beds grew by only around 100%. This implies that today's hotels are smaller than they were a decade ago, or at least that the new hotels are smaller than the old. Despite the vast increase, the fact that hotels are getting smaller may be a mitigating factor.

3.4 Recommendations

The data we have collected is a great start to understanding tourism in Venice, along with that COSES does a great job of a high level summary of tourism. What would make the two connect better would be to get the type of data we did (aka physical man hours counting people) at various times of year so that we can confirm the yearly trends that COSES reported. Once the trends are backed up by several man hours spent counting we can then use the prediction for the tourist population to extrapolate the overnight and excursionist tourists ratios for all modes of transportation into the city.

4. Stores

The stores of Venice can give the pulse of the city and the way in which it is handling the changes in the demographics that travel its streets. As we have already previously mentioned, the local population is decreasing at a constant and unnerving rate whereas the tourist population that come to Venice increases at a very fast pace.

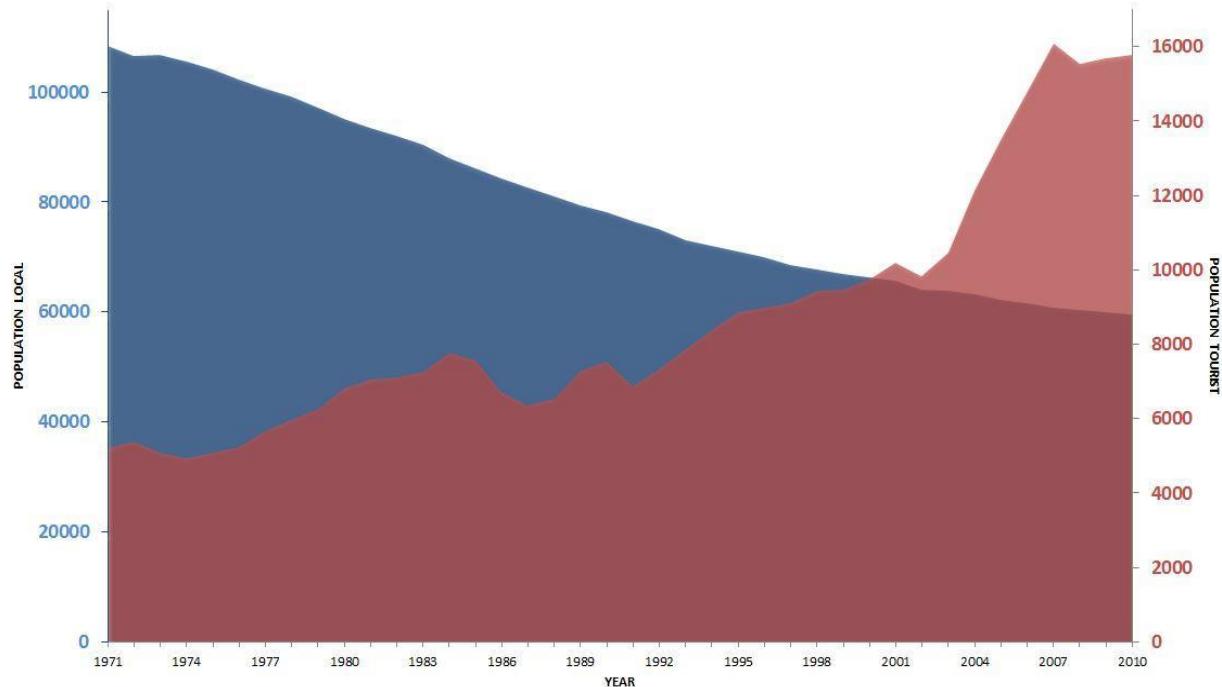


Figure 20 Local population (blue) overlaid to the tourist population (red) axes colors reflect populations it represents whereas the tourist population that come to Venice increases at a very fast pace.

We determined that the stores of Venice must reflect the trends and help us predict the things to come if this trend continues.

4.1 Assessing Previous Research

For a city that is approximately the size of the Logan International Airport of Boston, Venice contains a staggering amount of stores in its small winding streets. To date, there has been 4937 Recorded stores in Venice.



Figure 21 All of the stores in Venice (4837) represented as dots

A factor which contributes to the decreasing population, is the fact that the service industry takes up approximately 80% of job market in Venice. Construction, manufacturing and agriculture make up the other 20%. (Stephanie Miskell 2008). One of the possible causes of the major decrease in the number of younger Venetians may be college graduates leaving the city due to the lack of variety in the job market.

In the city of Venice, the overwhelming density of tourist provides unique opportunities for local businesses with, “on average...eighty-nine foreigners...for one hundred Venetians who live there: the highest tourist-to-resident ratio in Europe.” (Davis 2004).

However, the other side of the coin is that any business which is not oriented towards separating tourists from their money is at a grave disadvantage compared to their visitor-oriented neighbors. Their primary market is the local population, which has less money to spend. The average cruise ship passenger, who does not even need to pay for a hotel room, spends over €80 each day in Venice(Young 2013), an amount which, if sustained over a year, would exceed an average European’s net salary(Young 2013).



Figure 22 All the Tourist Stores in Venice (2872) represented as dots.

This rise in demand, according to basic microeconomics, is then reasonably expected to drive up the number of suppliers of tourist-oriented goods and services, even if such growth comes at the expense of resources (space, licenses, et cetera) which might otherwise go to businesses which supply Venetians.



Figure 23 All the Local stores in Venice (955) represented as dots

And this expectation is exactly what previous investigations into the city have confirmed. Comparisons between two large regions of the city revealed that San Marco, which is heavy with tourists, had a very different commercial landscape from the far more residential Cannaregio. San Marco, for example, had a proportion of about twenty-eight restaurants per every hundred stores, compared to Cannaregio's proportion of fifteen for every hundred (Un'Economia Sommersa).

Though this trend is only beginning to receive attention, it is already clear that its impact goes beyond the merely commercial. A study done on the diminishing number of grocery and service stores

which focus on local customers revealed “a growingly uninhabitable Venice” (Capturing the Changing Face of the Venetian Retail Sector), an evolution which they assert has been occurring since World War II. The sparseness of locally focused businesses, including those providing necessities such as food, serves to drive out its own customer base of Venetian denizens.

Yet, despite the ills associated with the tourist-oriented retail sector, it is also one of the strongest drivers of Venice's economy, accounting for 70% of its economic activity and 50% of its employment(Bahlatzis 2013). Tourist spending alone drives nearly thirty percent of the economy (through direct and indirect spending) of the entire nation(*Ministry of Foreign Affairs - Italian MFA - Getting to Know Italy - Economy* 2013), and Venice, of course, has the most tourists per resident of the entire continent, let alone just the nation, with a ratio nine times higher than neighboring Florence(Cruise Ships). While direct causation remains murky, the relationships between the crowded city, the stores which serve its locals and visitors, and the falling standards of living and comfort bear further investigation.

The most important question the current research is still in the process of answering is whether or not there exists a vicious cycle of tourism. Does the rise in tourism warp the city to the demands of foreign pleasure, forcing Venice's inhabitants to build a life elsewhere, or will current policies and practices defend them from the growing legions of visitors?

4.2 Methodology

To accomplish this objective we investigated how stores in Venice are changing. In essence we strived to find what parallels begin the changes in environment and the connection tourism has to these changes. The first reasonable step to take was to compile the previous data made by previous IQP groups of the stores in Venice.

The data collected ranges from 1950 to 2012. There have been several teams to collect data regarding stores, however, even they did not date back to 1950's. Any information collected regarding stores dating before 2004 is from information received from previous homeowners, families that have lived in the area and other individuals very familiar with the city and the time frame in which they gave the information.

After all the data regarding stores was collected, it was determined that it would be stored in a way that future groups can add information in an easier manner. Since Venice is a city that is very concentrated and very hard to add more landmass into, the city itself changes very hardly over time. It is because of this that in essence, the locations in which stores can exist are restricted to certain areas: places where past stores have existed and most often on ground level with access to local streets. It was thus determined that the store locations will, generally not change, and thus can be the constant in this shifting variable we call stores.

Going off of this assertion, we compiled the store locations file by assigning it relatively unchanging variables. The file contains: Primary address id, wiki friendly name, sestiere, street name, street number, latitude and longitude. (Appendix C1)

primary_address_id	wiki_friendly_title	secondary_address_id	settore_code	settore_name	street_name	street_number	settore_address	street_and_number	accessory_addresses	latitude	longitude
0278000018	Store location - 0278000018		CN	Cannaregio	Fondamenta Sar	18	CN18	Fondamenta Santa Lucia 18		45.43931008	12.32004588
0278000054	Store location - 0278000054		CN	Cannaregio	Fondamenta Sar	54	CN54	Fondamenta Santa Lucia 54		45.44134482	12.32180657
0278000055	Store location - 0278000055		CN	Cannaregio	Fondamenta De	55	CN55	Fondamenta Dei Scalzi 55		45.44136537	12.32234139
0278000056	Store location - 0278000056		CN	Cannaregio	Fondamenta De	56	CN56	Fondamenta Dei Scalzi 56		45.44138593	12.32238237
0278000057	Store location - 0278000057		CN	Cannaregio	Fondamenta De	57	CN57	Fondamenta Dei Scalzi 57		45.44141203	12.32243329
0278000058	Store location - 0278000058		CN	Cannaregio	Fondamenta De	58	CN58	Fondamenta Dei Scalzi 58		45.44144477	12.32248219
0278000059	Store location - 0278000059	0278000061	CN	Cannaregio	Fondamenta De	59	CN59	Fondamenta Dei Scalzi 59	Cannaregio Calle Priuli /	45.44146331	12.32250525
0278000068	Store location - 0278000068		CN	Cannaregio	Calle Priuli Ai Ce	68	CN68	Calle Priuli Ai Cavaleti 68		45.44202824	12.3217061
0278000072	Store location - 0278000073_0278000074	CN	Cannaregio	Calle Priuli Ai Ce	72	CN72	Calle Priuli Ai Cavaleti 72	Cannaregio Calle Priuli /	45.44211105	12.32158694	
0278000075	Store location - 0278000075		CN	Cannaregio	Calle Priuli Ai Ce	75	CN75	Calle Priuli Ai Cavaleti 75		45.44219188	12.32147724
0278000076	Store location - 0278000076		CN	Cannaregio	Calle Priuli Ai Ce	76	CN76	Calle Priuli Ai Cavaleti 76		45.44220031	12.32143483
0278000077	Store location - 0278000077		CN	Cannaregio	Calle Priuli Ai Ce	77	CN77	Calle Priuli Ai Cavaleti 77		45.44223723	12.32141146
0278000099	Store location - 0278000099		CN	Cannaregio	Calle Priuli Ai Ce	99	CN99	Calle Priuli Ai Cavaleti 99		45.44258658	12.3210468
0278000101	Store location - 0278000102A_0278000102I	CN	Cannaregio	Calle Priuli Ai Ce	101	CN101	Calle Priuli Ai Cavaleti 101	Cannaregio Calle Priuli /	45.44212492	12.32169198	
0278000103	Store location - 0278000103		CN	Cannaregio	Calle Priuli Ai Ce	103	CN103	Calle Priuli Ai Cavaleti 103		45.4420592	12.32179193
0278000106	Store location - 0278000106		CN	Cannaregio	Calle Priuli Ai Ce	106	CN106	Calle Priuli Ai Cavaleti 106		45.44194352	12.3219467
0278000108	Store location - 0278000108		CN	Cannaregio	Calle Priuli Ai Ce	108	CN108	Calle Priuli Ai Cavaleti 108		45.44172864	12.32224696
0278000112	Store location - 0278000112		CN	Cannaregio	Calle Priuli Ai Ce	112	CN112	Calle Priuli Ai Cavaleti 112		45.44164286	12.32236927
0278000116	Store location - 0278000116		CN	Cannaregio	Fondamenta De	116	CN116	Fondamenta Dei Scalzi 116		45.4415237	12.32258785
0278000117	Store location - 0278000118		CN	Cannaregio	Rio Tera' Lista Di	117	CN117	Rio Tera' Lista De Spagna 117	Cannaregio Rio Tera' Lis	45.44162534	12.32266618
0278000120	Store location - 0278000120		CN	Cannaregio	Rio Tera' Lista Di	120	CN120	Rio Tera' Lista De Spagna 120		45.44173414	12.32279267
0278000121	Store location - 0278000121		CN	Cannaregio	Rio Tera' Lista Di	121	CN121	Rio Tera' Lista De Spagna 121		45.44174924	12.32281284
0278000122	Store location - 0278000122		CN	Cannaregio	Rio Tera' Lista Di	122	CN122	Rio Tera' Lista De Spagna 122		45.44173414	12.32279267
0278000124	Store location - 0278000124		CN	Cannaregio	Rio Tera' Lista Di	124	CN124	Rio Tera' Lista De Spagna 124		45.44179935	12.3228945
0278000125	Store location - 0278000125		CN	Cannaregio	Rio Tera' Lista Di	125	CN125	Rio Tera' Lista De Spagna 125		45.44182113	12.32292326
0278000126	Store location - 0278000126		CN	Cannaregio	Rio Tera' Lista Di	126	CN126	Rio Tera' Lista De Spagna 126		45.4418541	12.32297062
0278000127	Store location - 0278000127		CN	Cannaregio	Rio Tera' Lista Di	127	CN127	Rio Tera' Lista De Spagna 127		45.44187575	12.32299607
0278000129	Store location - 0278000129		CN	Cannaregio	Rio Tera' Lista Di	129	CN129	Rio Tera' Lista De Spagna 129		45.44191467	12.32304378
0278000130	Store location - 0278000130		CN	Cannaregio	Rio Tera' Lista Di	130	CN130	Rio Tera' Lista De Spagna 130		45.44193667	12.32306873

Figure 24 A sample of fields in the store locations file

These locations, as previously mentioned, are presumed to not change with respect to time, and thus they provide a platform that all the past data and the future data to be implemented unto with minimal changes. The way in which this is done is by creating another file that associates all the time dependent variables regarding stores.

The store types file contains all the iterations the store has taken in that specific location. The store types file provides us with primary address id, store name, store type, nace code, ateco code(Appendix C5), ethnic ownership, corporate ownership, times of operation, years in which stores were open, and lastly a photo id.

primary_address_id	wiki_friendly_title	store_name	store_type	nace_code	ateco_code	ethnic_ownership	corporate_ownership	opening_time_am	closing_time_am	opening_time_pm	closing_time_pm	closed_for_u
364_1621001339	Store 1621001339 - (I) Antonveneta	Bank		64.11	64.11.0							TRUE
365_0278000189	Store 0278000189 - (I) Osteria Nova	Bar		56.3	56.30.0			10:00:00 AM	3:00:00 PM	4:00:00 PM	12:00:00 AM	
366_0278000912	Store 0278000912 - (2004)	Bar		56.3	56.30.0			7:00:00 AM			10:00:00 PM	
367_0278001299	Store 0278001299 - (I) India Bar Alle G Bar	Bar		56.3	56.30.0							
368_0278001615	Store 0278001615 - (2004)	Bar		56.3	56.30.0			7:00:00 AM			2:00:00 AM	
369_0278001847A	Store 0278001847A - (I) Cantina Aziend Bar	Bar		56.3	56.30.0			9:00:00 AM	1:30:00 PM	5:00:00 PM	9:00:00 PM	Sunday
370_0278001975B	Store 0278001975B - (2004)	Bar		56.3	56.30.0							
371_0278002329	Store 0278002329 - (C) Cantina Vecia C Bar	Bar		56.3	56.30.0							
372_0278002393A	Store 0278002393A - (II) Santo Bevitio Bar	Bar		56.3	56.30.0							
373_0278002675A	Store 0278002675A - (2012)	Bar		56.3	56.30.0							
374_0278002839	Store 0278002839 - (I) Profondo Rosso Bar	Bar		56.3	56.30.0			8:00:00 AM			2:00:00 AM	
375_0278004556C	Store 0278004556C - (El Sbarlefo	Bar		56.3	56.30.0							
376_0278005546	Store 0278005546 - (2009)	Bar		56.3	56.30.0			7:00:00 AM			9:00:00 PM	
377_0278005548	Store 0278005548 - (I) Lenevia	Bar		56.3	56.30.0			8:00:00 AM			8:00:00 PM	
378_0278005550	Store 0278005550 - (E) Enoteca Botoltri Bar	Bar		56.3	56.30.0			9:30:00 AM			8:30:00 PM	
379_0278005560	Store 0278005560 - (E) Bar Royal	Bar		56.3	56.30.0			7:30:00 AM			2:00:00 PM	
380_0278005600	Store 0278005600 - (E) Enobar	Bar		56.3	56.30.0			10:00:00 AM			11:00:00 PM	
381_0278005620	Store 0278005620 - (F) Fruulala	Bar		56.3	56.30.0							FALSE
382_0278005620B	Store 0278005620B - (I) Frulala Bar	Bar		56.3	56.30.0							FALSE
383_0278005836	Store 0278005836 - (I) Osteria Barabaf Bar	Bar		56.3	56.30.0							
384_0278005984A	Store 0278005984A - (I) Spaccio Garni B Bar	Bar		56.3	56.30.0			10:00:00 AM			12:00:00 AM	
385_0278005990	Store 0278005990 - (I) Gopion Caffe Bar	Bar		56.3	56.30.0							
386_0278006371	Store 0278006371 - (2005)	Bar		56.3	56.30.0			7:00:00 AM			9:00:00 PM	
387_0270700684	Store 0270700684 - (C) Corner Pub	Bar		56.3	56.30.0			8:00:00 AM			10:30:00 PM	
388_0270700794	Store 0270700794 - (L) Laguna Bar Gel Bar	Bar		56.3	56.30.0							FALSE
389_0270700850	Store 0270700850 - (2004)	Bar		56.3	56.30.0							
390_0270700853A	Store 0270700853A - (I) Inter Club Mass Bar	Bar		56.3	56.30.0			6:00:00 AM			9:00:00 PM	
391_02707001056A	Store 02707001056A - (Club Piccolo Mt Bar	Bar		56.3	56.30.0					11:00:00 PM	4:00:00 AM	
392_02707001078	Store 02707001078 - (2010)	Bar		56.3	56.30.0			7:00:00 AM			8:00:00 PM	
393_02707001191	Store 02707001191 - (Toletta Snack B Bar	Bar		56.3	56.30.0							

Figure 25 A sample portion of the store types file

Any future group can simply add their files to the store types and create primary address id's dependent on their locations. This way, there is only one master file in which all the store information is collected rather than having several different forms and formats in which they previously were.

Using these files, we can look at different patterns and draw out certain conclusions from the trends observed. This was simply done by saving the excel files as comma separated values (.csv). After this, one can observe these trends visually using an open source software titled QGIS (Quantum

Geographic Information System) in order to visualize the stores and use the variety of tools that QGIS provides.

With the created excel files for the stores, we can also do a variety of web applications that can be used to display the information online. The City Knowledge console (CK console) is a website created by students and Professor Carrera in order to assist in displaying information online. The console can display information visually in map form much like QGIS, can create Venipedia pages for each of the data entries, can associate images and display different sorts of information with little trouble. (Appendix C2)

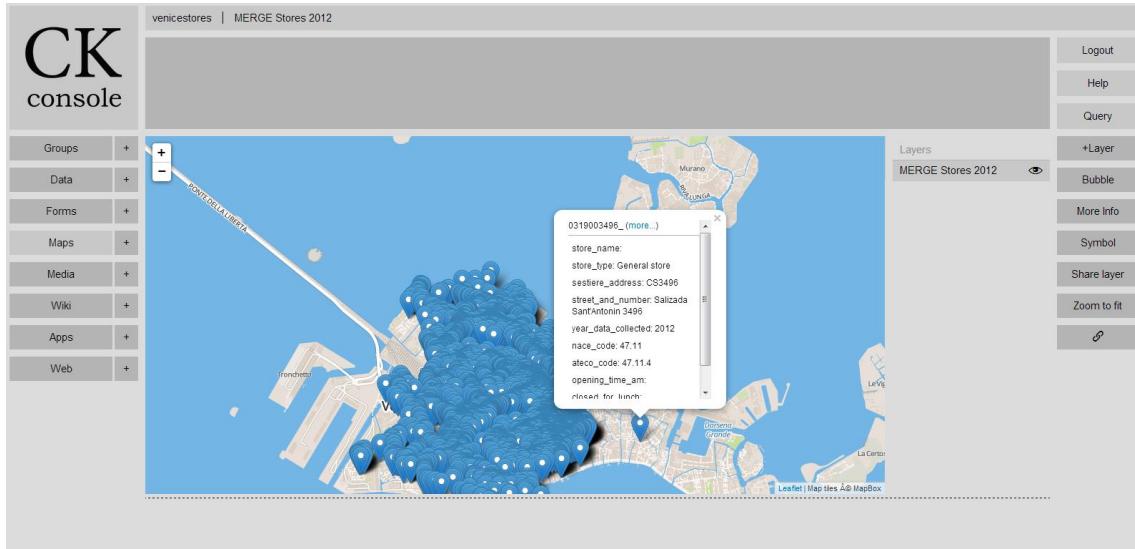


Figure 26 A sample dataset of stores being displayed in the CK Console

One of the most important tools used in the CK console is the mapping feature. One can upload which ever data set they wish to display on the console. This is also a platform through which one can display data on websites much like we have done so with our stores database. This information can be found by navigating www.veniceprojectcenter.org or by going directly through the link www.stores.veniceprojectcenter.org

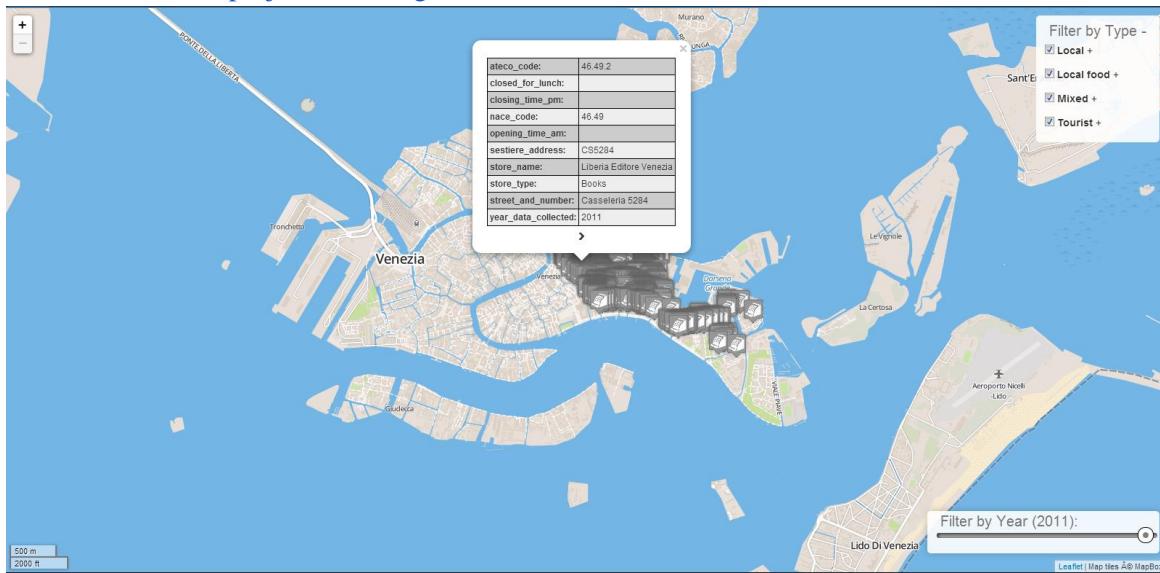


Figure 27 Sample photo of www.stores.veniceprojectcenter.org

With the help of the CK console, we can also create individual Venipedia pages for these stores. This is done in such a way that the pages are created on the fly, when the information is requested.

4.3 Analyzing the Impact on Venetian Retail Sector

In the end, using the compiled database, we determined with the use of the latest numbers (2012) that there were currently 4837 Stores in Venice of which 3837 are open. This makes up roughly 79% of the stores in Venice. The rest of the stores, 21% or 1010 stores are currently out of operations. These are locations that have been abandoned and are not being used.



Figure 28 Open stores (green) and closed stores (black)

The open stores can be seen to highlight most of the main roads and areas in Venice with their outline. They are undoubtedly more concentrated on the centers of attraction, which we will go into further detail later.

4.3.1 Local Store Accessibility

Of these stores, only 17% are catering to the local population. These are stores varying from grocery stores and butcher shops to metal shops and ship parts sales. These stores are centered in more local areas, as can be seen by the image below. Areas majorly settled with locals such as Cannaregio and Dorsoduro can be seen to exhibit their local stores. Of course, the Rialto bridge skews this image due to its very high density of stores in a small area as well as the fish market that takes place in the area.

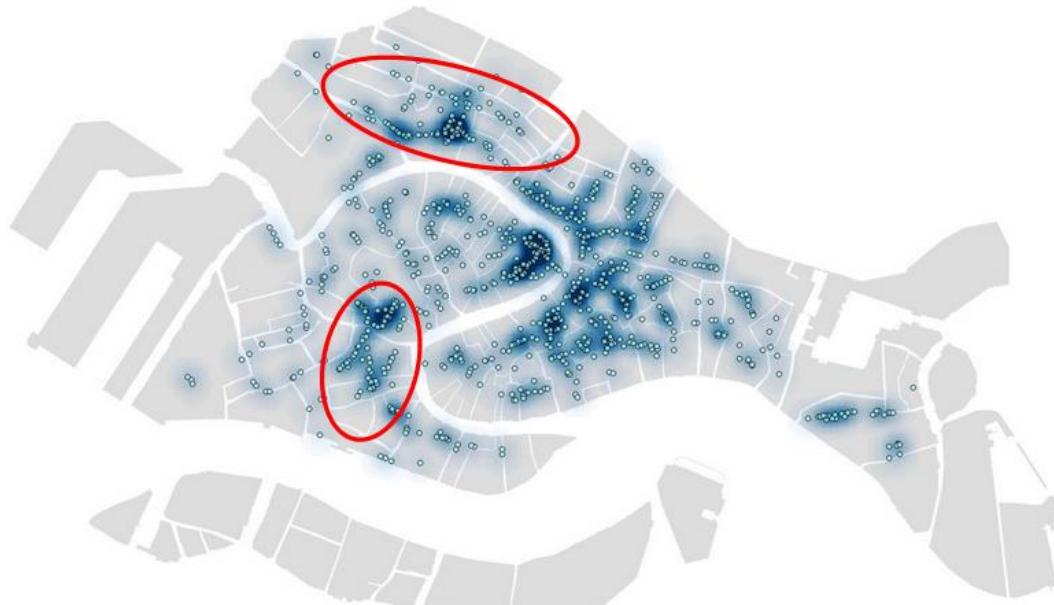


Figure 29 Local stores (blue) heatmap and the red circles signifying local area concentrations

With Venice being a highly foot traffic dependent city, it is important for people to be able to easily access their daily grocery needs. Unlike some other countries, like the United States, Venetian locals tend to shop very frequently, almost daily for their needs, and this requires a certain closeness to these stores. Without access to personal cars (and boats not frequently being used for these needs) a majority of the population walks to do their tasks, this including their food necessities. We also noted that with age, this task becomes a harder chore as the distances a person is willing to walk reduce with age. To assess the ease of accessibility to the local food stores of the local resident population, we used the most up to date local census tract and the stores database to build a heat map. The shades of orange are areas in which the local population resides and is out of range of at least a 100 meters to the nearest grocery store. The darker areas reflect the more concentrated age group. These areas blanketed the local population with their resources and thus the population below this layer are not seen. As you can see from the heat map below, there is a majority of the resident population that has to walk long distances to satisfy their most basic needs. (Appendix C3)

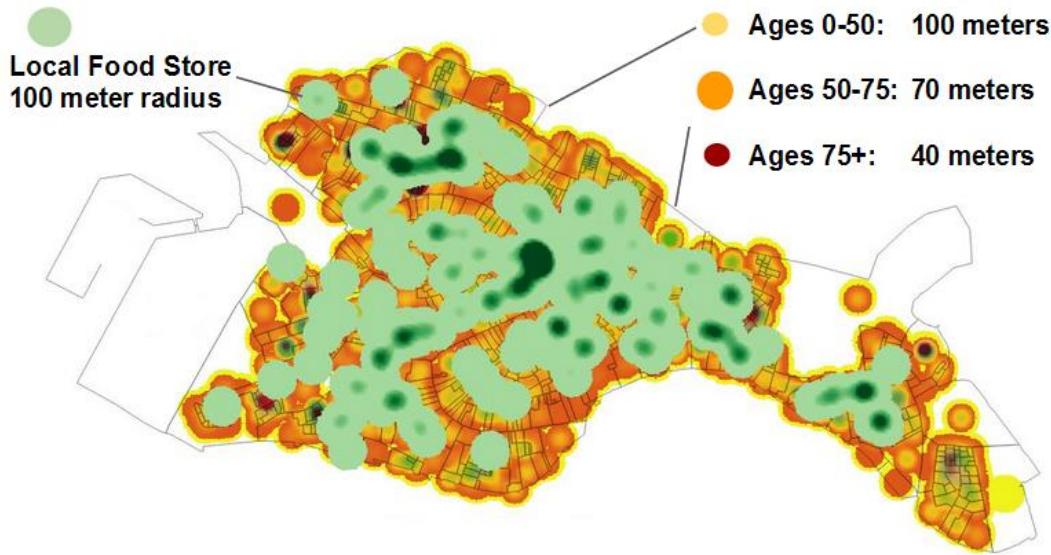


Figure 30 Local population (shades of orange) compared to local grocery stores (green)

4.3.2 Tourist Stores

The other major category of stores that opposes the local stores is the tourist stores. (Appendix C4) Tourist stores make up 57% of the stores in Venice. It is undoubtedly the largest category, containing an estimated 2872 stores that range from souvenir shops to car rental. These stores, predictively are highly centralized in tourist paths and can quite literally outline the path that an average tourist travels to explore Venice. As seen below, the San Marco and Rialto are very concentrated in this type of stores as well as the train station and Strada Nova.



Figure 31 All of the Tourist stores (red) with a heatmap showing concentrations

As previously stated, a majority of the stores in Venice are to support the tourist population and this trend continues. From 2004 to 2012, almost 20% of the stores in Venice

changed from catering to the resident to catering the tourist population. (Merchants of Venice 2012 IQP)

4.3.3 Closed Stores

The last and most noteworthy type of stores that make up Venice is closed stores with 21% of Venice's stores closed up to the last data collection. These 1010 stores are places most worth noting because these businesses reflect areas of deprived business, whether it be from reduced business due to decreased local population, or increasing tourist population.



Figure 32 Closed stores (black) heat map showing concentrated areas of closure

Observing the heat map above, one can see that the concentration of closed stores seem to be occurring heavily in Castello and Rialto. The closed stores in Rialto area was explained by the very high density of stores with the same type of store being repeated several times in a very small area. It was determined that store closures were completely normal with the same type of stores out competing each other in such a small area.

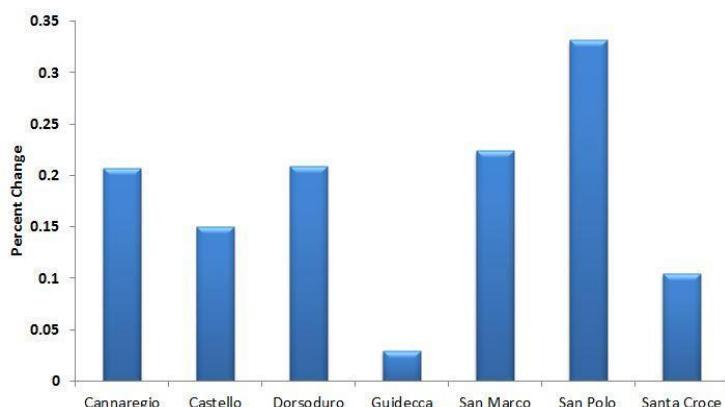


Figure 33 Percent change of resident population adjusted to size of each sestiere

We also concluded that the Castello area can be explained by the decrease in local population throughout Venice. However, the decrease in local population has been relatively consistent throughout Venice, thus it did not at first make sense for the concentration of store closures to be in only one area.

Areas such as San Marco and

Strada Nova where there is a very high concentration of stores seem to

not suffer from the same fate the stores in Castello are afflicted. One expects more closures in these areas if the decrease in local population was the primary reason for store closures. But when one considers that the very high concentration of tourists that arrive to Venice travel through only several main arteries to explore Venice, a new picture appears.



Figure 34 Closed stores (black) in Venice with the tourist path (yellow) and non low store closure concentrations (red)

We concluded that the tourist path highlighted above in yellow provides the main tourist traffic through Venice. Thus, heavy store closures occur in areas in which the tourist crowd does not tend to travel as well as the local population has decreased. These two factors compounding cause a heavy closure of stores in areas seen below, and decrease closure of stores in areas benefiting from both demographics.

Lastly, we have uploaded the information on stores presented here in the venice project center website (www.veniceprojectcenter.org) under commerce or it can be directly accessed following the link www.stores.veniceprojectcenter.org. This website provides the user with all the years of known stores, dating back to the few known stores from 1950's to the complete dataset that we currently possess from 2012. WPI's Venice project center is proud to say that we have been the only organization to date that has been able to provide a map of all the stores available to public. It is completely open to the public and can be used to find any store throughout Venice. It also gives the option to select the stores by category, and highlighting, for instance, only the tourist stores in the area. It gives the user the ability to fine tune their option by selecting or de-selecting certain fields. Moreover, a heatmap option provides the user with the ability to observe the concentration of stores discusses in their own way.

4.4 Recommendations

The development of a quick and easy method for acquiring that data – turning a city-wide retail census from an epic labor into an achievable objective – becomes a priority, so that the process of gathering longitudinal data can begin. With this in mind, the Venice project center assistant Ben Lichtner

is in the process of completing a mobile phone app that can be used to collect new stores data, making the old way of using clipboards obsolete. This new method is intended to be able to directly upload the data into the CK console to the already growing stores dataset that we have created in our time frame.

At the same time, the trends in other areas need to be examined as well, allowing for comparison between the rising tourist population and the declining Venetian quality of life. Giudecca being one point that has never been canvassed by a WPI team is worth noting because of its unique situation of retaining the local population. This may reflect some information worth noting about the efforts of Giudecca to retain its local residents and how this affects the island.

5. Appendix

A. Demographics

Working with Census Tracts (cont.)

We only had acquired census tracts for 1991 and 2001, we needed to recreate 1971 and 1981 to analyze population trends. In these two cases, we were forced to rely on data from other years. We were provided a sheet of comparison section number for the year of 1991 and 1981. This sheet laid out what sections in 1981 were split to make 1991. For example, census tract number one from 1981 was composed of census tracts numbers one through fourteen from 1991. After labeling each individual section in QGIS for the 1991 tract, we were then able to manually combine tracts one through fourteen on the layer to recreate tract one in 1981. After repeating this process for all 152 tracts in the 1981 census, we had a complete map of that year's census tracts.

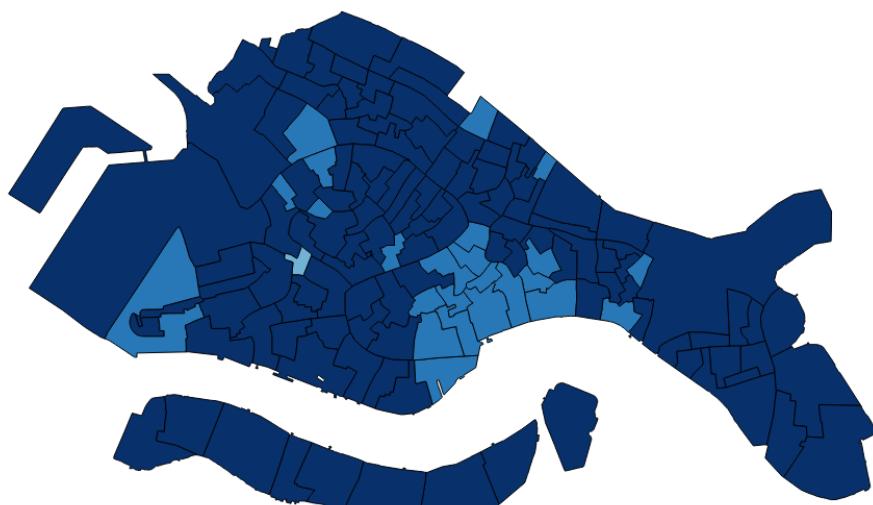
Moving on to 1971, the statistics office supplied us with a picture of a map which was labeled by section, but not stored digitally. By comparing that year's census tracts to the 1981 census tracts, we were able to similarly combine census tracts by hand in order to arrive at a complete digital map of the 1971 census tracts, which could then be used to produce infographics and returned to the statistics office for their future purposes.

Classification:

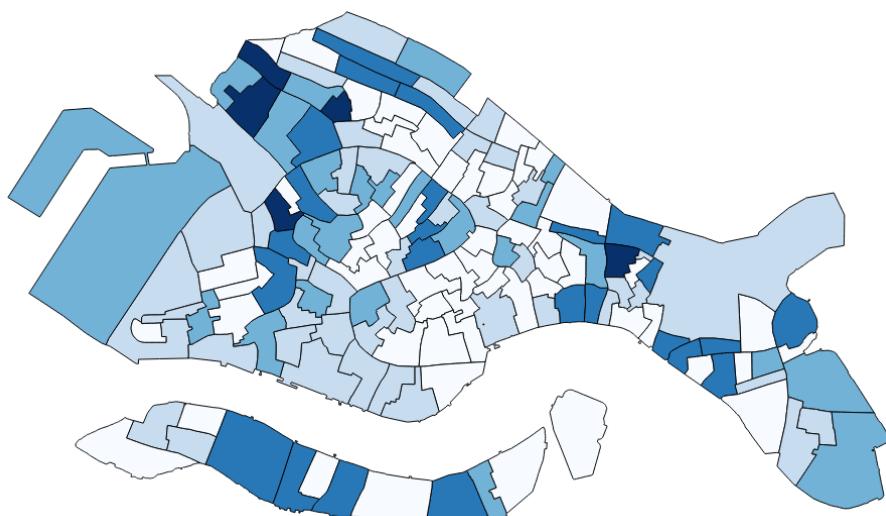


Census tracts colored by population density:

1971:



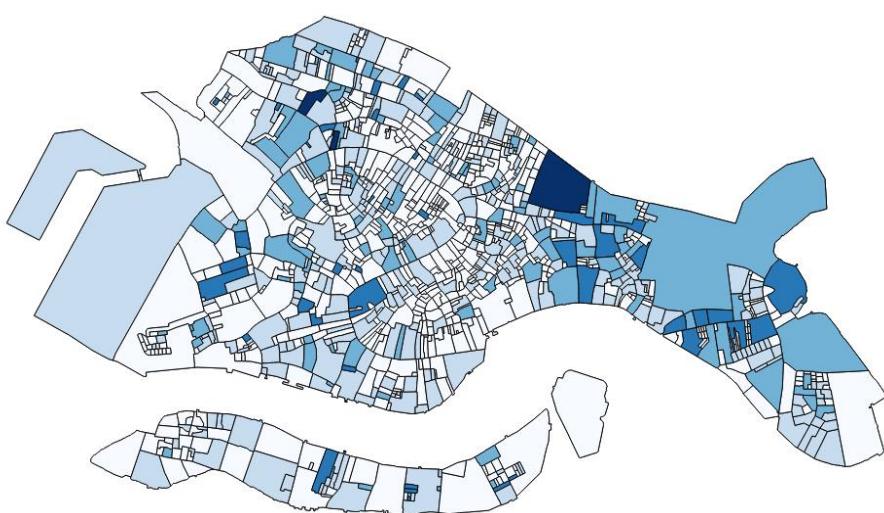
1981:



1991:

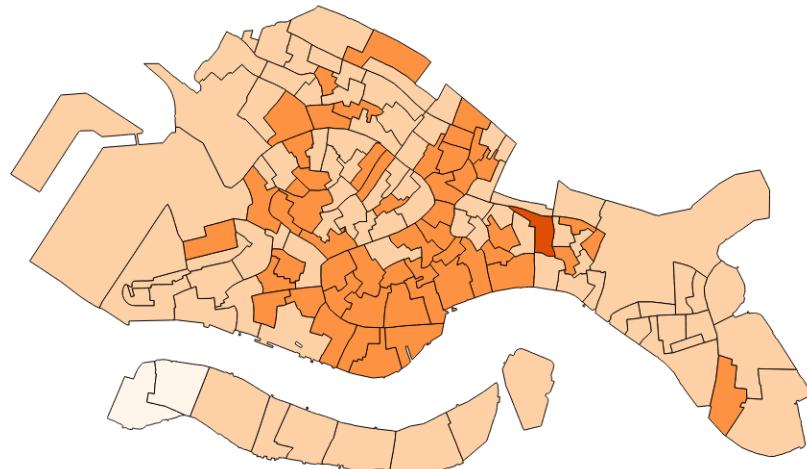


2001:

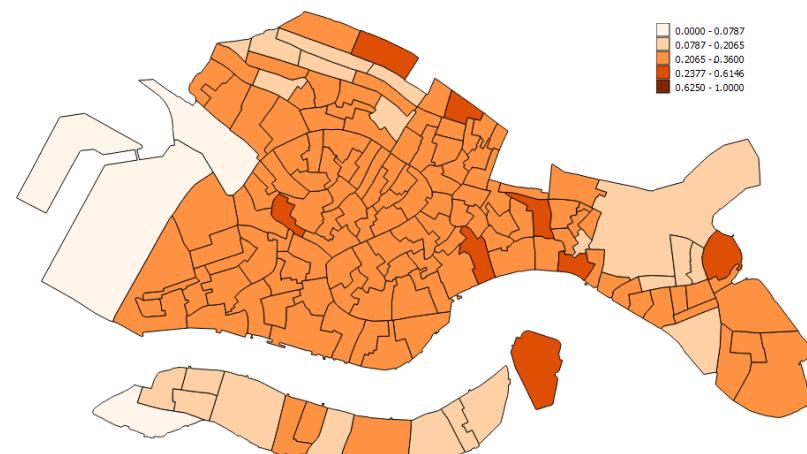


Census tracts by elderly percentage:

1971:



1981:



2001:



Recommendations

Another recommendation we have is before working in QGIS on census tracts, make sure the layer is in the projection you want to be working in. Working on the layer in the correct projection from the start is something we wished we would have done different. We had a lot of projection problems for each year later in the project. The projection we recommend using is WGS84 so they line up with google maps.

B. Tourism

Mode of Entry	Overnight Tourists in Venice	Excursionist Tourists in Venice	Total Tourists in Venice
Airplane	3,450,000	0	3,450,000
Train	1,347,000	7,120,000	8,467,000
Car	268,000	751,000	1,019,000
Tourist Bus	365,000	2,334,000	2,699,000
Bus Line	120,000	1,710,000	1,830,000
Cruise Ship	843,000	435,000	1,278,000
Boat	0	2,861,000	2,861,000
Total	6,393,000	15,211,000	21,604,000

Airplane Tourism Data

Tuesday, November 5th, 2013

Time	Arriving Passengers	Tourists by Water Bus	Tourists by Speedboat Taxi	Tourists by Ground Bus	Tourists by Taxi Car
9:30 – 10:00	156	21	16	28	10
10:00 – 10:30	448	14	2	18	5
10:30 – 11:00	309	23	6	47	9

11:00 –						
11:30	673	70	50	64	10	
11:30 –						
12:00	1199	54	4	50	8	
12:00 –						
12:30	463	N/A	N/A	N/A	N/A	
12:30 –						
13:00	262	85	15	98	6	
13:00 –						
13:30	155	67	12	59	6	
13:30 –						
14:00	791	21	6	23	6	

Saturday, November 9th, 2013

Time	Arriving Passengers	Tourists by Water Bus	Tourists by Speedboat Taxi	Tourists by Ground Bus	Tourists by Taxi Car
11:00 –					
11:30	1254	N/A	N/A	N/A	N/A
11:30 –					
12:00	392	N/A	N/A	N/A	N/A
12:00 –					
12:30	156	N/A	N/A	N/A	N/A
12:30 –					
13:00	155	139	61	0	24
13:00 –					
13:30	815	98	67	56	11
13:30 –					
14:00	358	50	20	57	8
14:00 –					
14:30	125	76	18	51	17
14:30 –					
15:00	465	36	15	32	4
15:00 –					
15:30	165	47	18	9	2

15:30 –					
16:00	281	7	2	0	6
16:00 –					
16:30	N/A	0	15	27	4

Tuesday, November 12th, 2013

Time Arriving Passengers Tourists by Water Bus

8:00 – 8:30	194	4
8:30 – 9:00	1075	46
9:00 – 9:30	156	33
9:30 – 10:00	448	6
10:00 – 10:30	559	21
10:30 – 11:00	673	24
11:00 – 11:30	1119	29
11:30 – 12:00	387	62
12:00 – 12:30	362	63
12:30 – 13:00	306	69
13:00 – 13:30	791	29
13:30 – 14:00	292	13
14:00 – 14:30	125	43
14:30 – 15:00	132	18
15:00 – 15:30	321	10
15:30 – 16:00	162	45
16:00 – 16:30	386	6
16:30 – 17:00	0	33
17:00 – 17:30	437	24
17:30 – 18:00	299	15

Saturday, November 23rd, 2013

Time	Arriving Passengers	Tourists by Water Bus
7:30 – 8:00	8	3
8:00 – 8:30	8.5	9
8:30 – 9:00	9	79
9:00 – 9:30	9.5	20
9:30 – 10:00	10	43
10:00 – 10:30	10.5	30
10:30 – 11:00	11	30
11:00 – 11:30	11.5	64
11:30 – 12:00	12	77
12:30 – 13:00	13	48
13:00 – 13:30	13.5	53
13:30 – 14:00	14	56
14:00 – 14:30	14.5	18
14:30 – 15:00	15	36
15:00 – 15:30	15.5	62
15:30 – 16:00	16	61
16:00 – 16:30	16.5	86
16:30 – 17:00	17	23

C. Stores

1. Further information on Stores Locations file:

It is worth noting that store types are time dependent, and thus the primary address id is not unique to each store. For example, a location that currently contains a restaurant may have had a butcher shop 4 years back. These would both have the same primary address id, but everything else in this place would differ. Also, all of the fields in the store types file are not fulfilled since some areas were created recently to help future teams and no data regarding them have been collected to date.

Store Locations

- a primary address id which is a unique identifier through which other things such as the type of store and the pictures for the store can be associated
- wiki friendly name associates the specific store location with a wiki page with information regarding that location
- sestiere gives the sestiere in which this location is located. The sestiere can be combined with the street number to provide you the common manner in which addresses are presented in Venice
- Street name provides the streets specific name. Some store contain multiple street addresses, and in this case, the street name is displayed with a primary and a secondary street name
- Street number gives the street number in that specific sestiere
- Latitude and longitude lastly, provides us with the specific coordinate locations of these locations through which they can be mapped on google, QGIS, or any mapping software.

Store Types

- primary address id provides a common ground through which this information can be linked to the store locations file. These may contain duplicates since there may have been several iterations of stores in a certain location.
- store name provides us with the specific store name
- store type places that store in a certain category of store
- NACE and ATECO codes provide us with specific industry used identification codes that are associated with the type of store it represents (ec.europa.eu/eurostat)
- ethnic and corporate ownership provide fields in which the ethnic background and corporate ownership of the store can be recorded. This can be used to see how much of the city is owned by locals and how the foreign ownership is fluctuating
- times of operation give us the opening time, closing time, whether it is closed for lunch, and if it is closed on weekends
- Years open provide us with the year in which it was opened, year in which it was closed and year the data was recorded
- photo id provides us with a link that can be used to link the photos to the specific store it is associated with

2. Further information on how to use QGIS:

The files to be uploaded to QGIS can be uploaded using the “add delimited layer” function in the software. This imports the .csv file that we have created and using the coordinates, maps these points on either a layer that we have created or a google earth image of the location these coordinates exist. The file can be mapped in a variety of ways, from doing a size variable circle to show respective sizes of populations in certain sestieres to using heat maps to display concentration of stores or populations in certain areas of the map. The use of these features can be found in the QGIS help website.

3. Further information on food stores accessibility:

Firstly, the residents were divided into three distinct age groups. Ages 0-50, 50-75 and 75+. We determined that a normal range a person in ages 0-50 would be willing to walk approximately a 100 meters. Respectively, 50-75 were calculated by determining that 70 meters would be the appropriate distance to walk. Lastly, we

concluded by determining that ages 75+ were willing to walk 40 meters to the nearest grocery stores. Using these values, we made the heatmap you see below. For example, areas dark red signify an elderly population without access to grocery stores. The green, on the other hand with its darker colors signify the areas with food stores in the area.

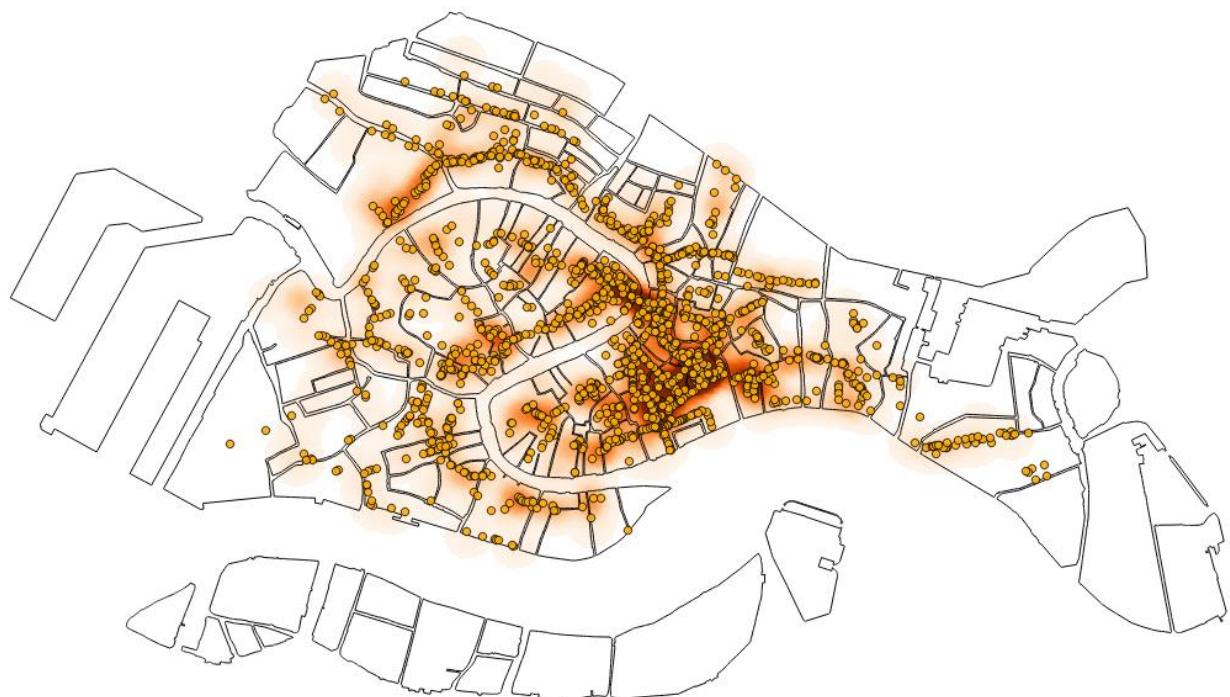
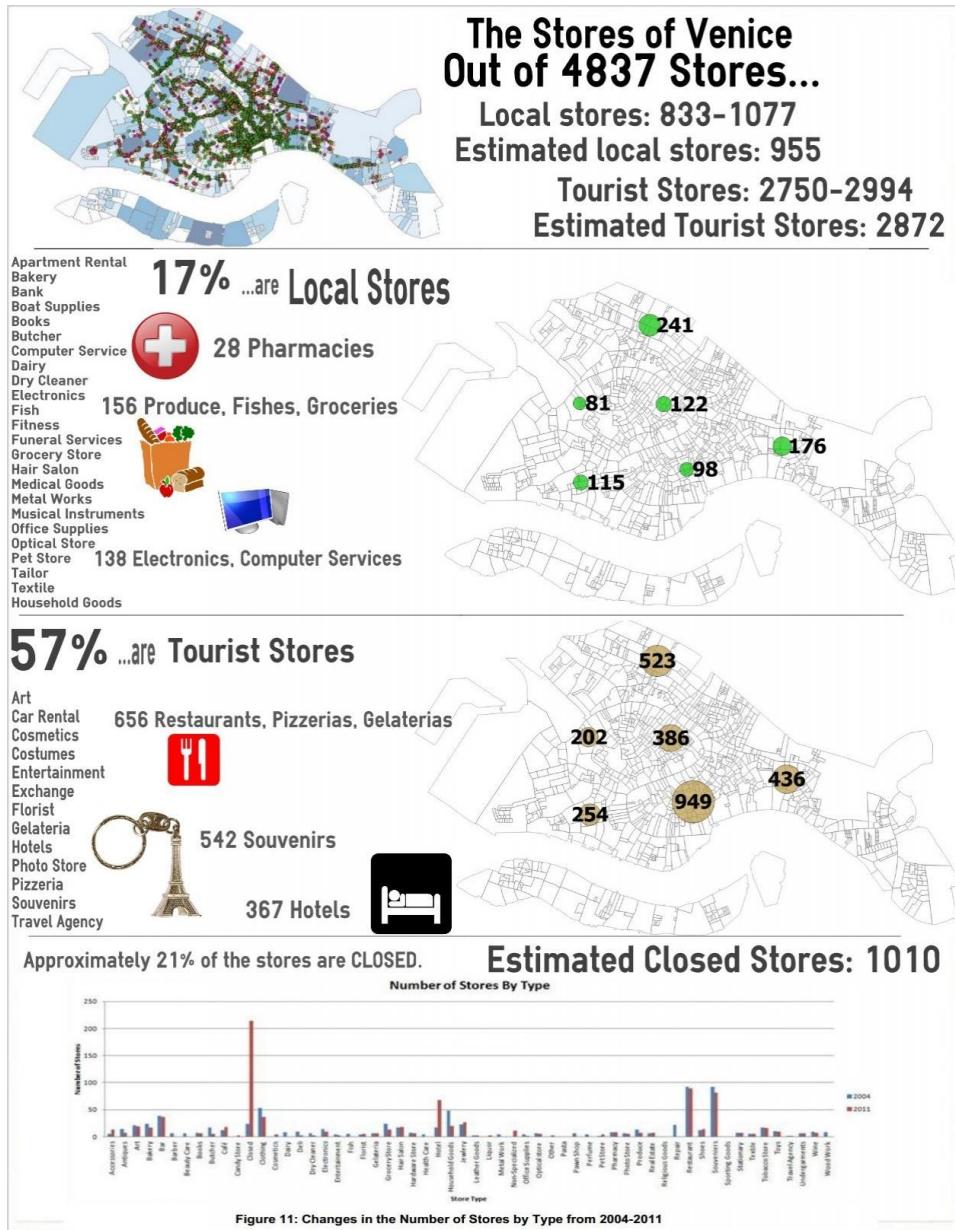


Figure 35 (Appendix C4) Heatmap of the “mixed” stores in Venice. Includes stores that fit into both local and tourist categories and makes up the rest of the percentages in the category



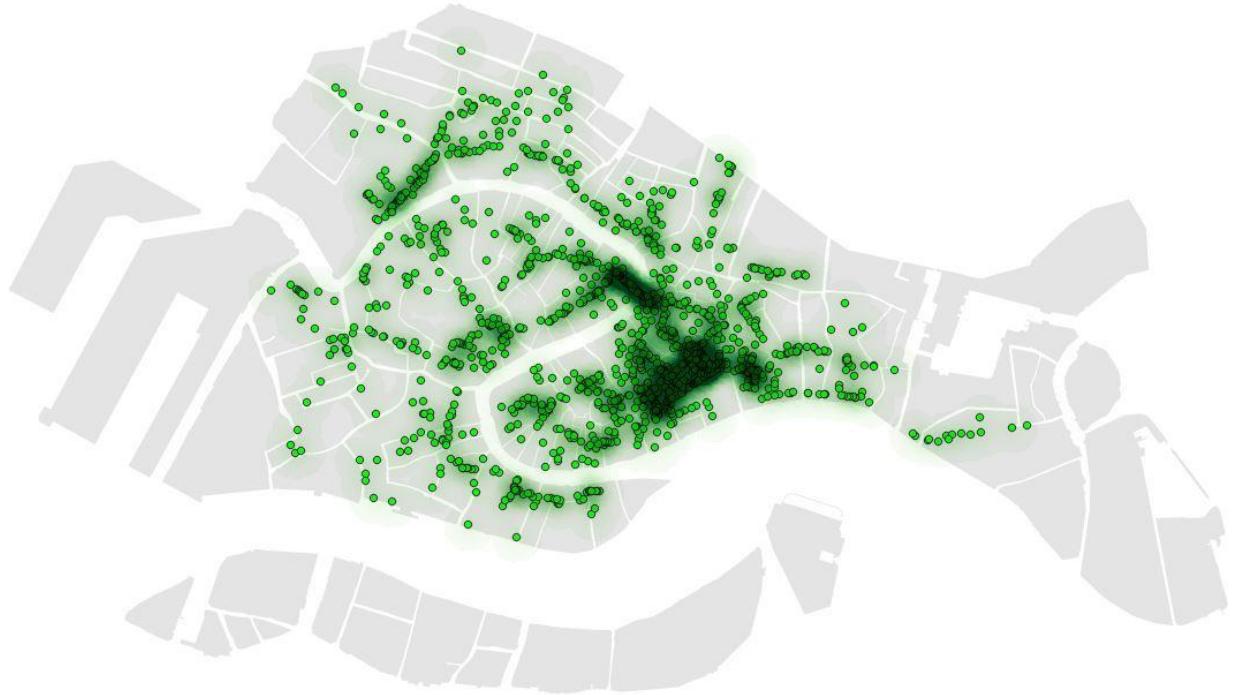


Figure 37 A heatmap of the open stores in Venice. Combines tourist, local and mixed stores

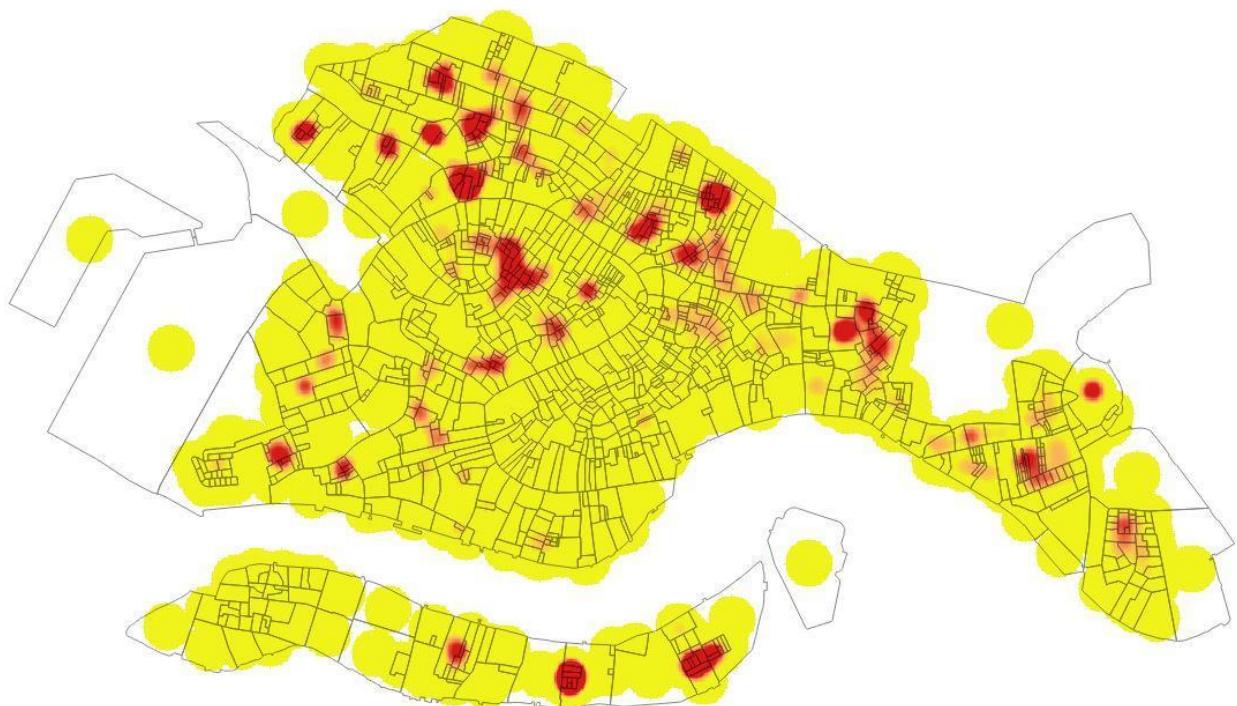


Figure 38 First layer of heatmap used to assess the distance walkable by age groups 0-50 in the food stores vs ease of accessibility for locals

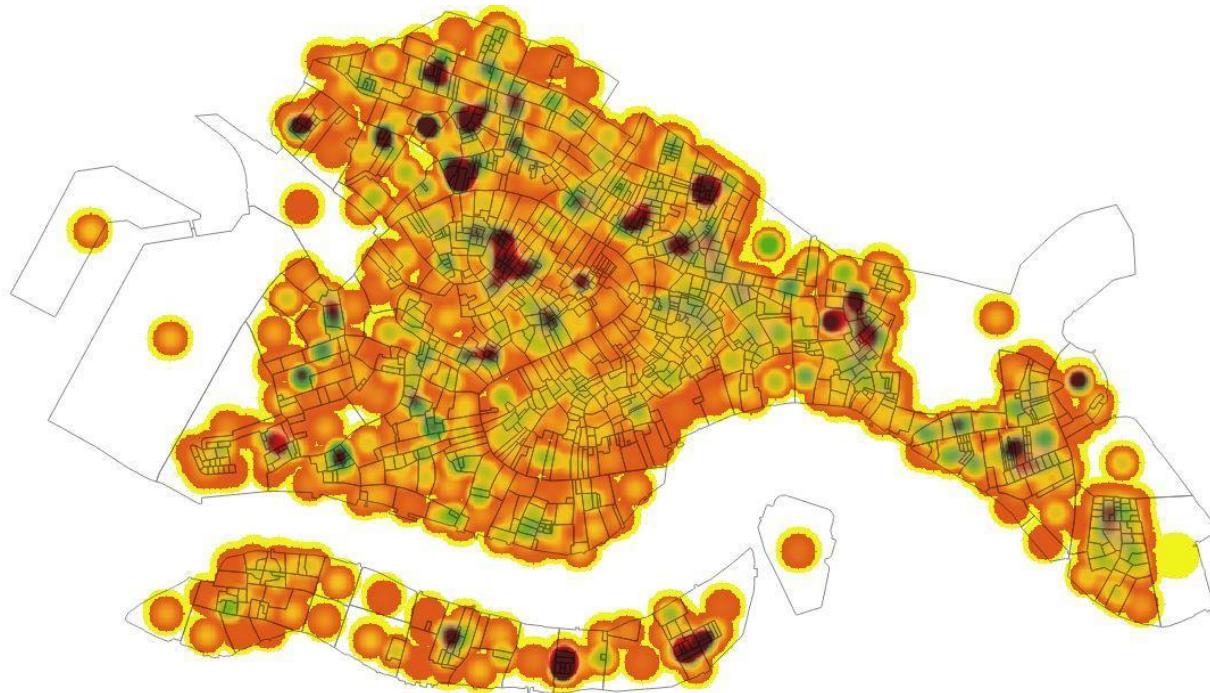


Figure 39 Second layer of heatmap used to assess the distance walkable by age groups 50-75 in the food stores vs ease of accessibility for locals

NACE to ATECO Conversion Table (Appendix C5)

NACE Code	Codice Ateco 2007	Descrizione	Description
01.11	01.11.1	Coltivazione di cereali (escluso il riso)	Growing of cereals (except rice)
	01.11.2	Coltivazione di semi oleosi	Cultivation of oilseeds
	01.11.3	Coltivazione di legumi da granella	Cultivation of grain legumes
	01.11.4	Coltivazioni miste di cereali, legumi da granella e semi oleosi	Mixed crops of cereals , leguminous crops and oil seeds
01.12	01.12.0	Coltivazione di riso	Cultivation of rice
01.13	01.13.1	Coltivazione di ortaggi (inclusi i meloni) in foglia, a fusto, a frutto, in radici, bulbi e tuberi in piena aria (escluse barbabietola da zucchero e patate)	Growing of vegetables (including melons) in leaf, a stem, a fruit , in roots , bulbs and tubers in the open (excluding sugar beet and potatoes)
	01.13.2	Coltivazione di ortaggi (inclusi i meloni) in foglia, a fusto, a frutto, in radici, bulbi e tuberi in colture protette (escluse barbabietola da zucchero e patate)	Growing of vegetables (including melons) in leaf, a stem, a fruit , in roots , bulbs and tubers in protected crops (except sugar beet and potatoes)
01.13	01.13.3	Coltivazione di barbabietola da zucchero	Cultivation of sugar beet
	01.13.4	Coltivazione di patate	Cultivation of potatoes

01.14	01.14.0	Coltivazione di canna da zucchero
01.15	01.15.0	Coltivazione di tabacco
01.16	01.16.0	Coltivazione di piante per la preparazione di fibre tessili
01.19	01.19.1	Coltivazione di fiori in piena aria
01.19	01.19.2	Coltivazione di fiori in colture protette
01.19	01.19.9	Coltivazione di piante da foraggio e di altre colture non permanenti
01.21	01.21.0	Coltivazione di uva
01.22	01.22.0	Coltivazione di frutta di origine tropicale e subtropicale
01.23	01.23.0	Coltivazione di agrumi
01.24	01.24.0	Coltivazione di pomacee e frutta a nocciolo
01.25	01.25.0	Coltivazione di altri alberi da frutta, frutti di bosco e frutta in guscio
01.26	01.26.0	Coltivazione di frutti oleosi
01.27	01.27.0	Coltivazione di piante per la produzione di bevande
01.28	01.28.0	Coltivazione di spezie, piante aromatiche e farmaceutiche
01.29	01.29.0	Coltivazione di altre colture permanenti (inclusi alberi di Natale)
01.30	01.30.0	Riproduzione delle piante
01.41	01.41.0	Allevamento di bovini e bufale da latte, produzione di latte crudo
01.42	01.42.0	Allevamento di bovini e bufalini da carne
01.43	01.43.0	Allevamento di cavalli e altri equini
01.44	01.44.0	Allevamento di cammelli e camelidi

01.45	01.45.0	Allevamento di ovini e caprini	Raising of sheep and goats
01.46	01.46.0	Allevamento di suini	Farming of swine
01.47	01.47.0	Allevamento di pollame	Raising of poultry
	01.49.1	Allevamento di conigli	Breeding of rabbits
01.49	01.49.2	Allevamento di animali da pelliccia	Breeding of fur animals
01.49	01.49.3	Apicoltura	beekeeping
01.49	01.49.4	Bachicoltura	sericulture
01.49	01.49.9	Allevamento di altri animali nca	Raising of other animals nec
01.50	01.50.0	Coltivazioni agricole associate all'allevamento di animali: attività mista	Agricultural crops combined with farming of animals mixed farming
01.61	01.61.0	Attività di supporto alla produzione vegetale	Support activities for crop production
01.62	01.62.0	Attività di supporto alla produzione animale (esclusi i servizi veterinari)	Support activities for animal production (except veterinary services)
01.63	01.63.0	Attività che seguono la raccolta	Activities that follow the collection
01.64	01.64.0	Lavorazione delle sementi per la semina	Processing of seed for sowing
02.10	02.10.0	Silvicoltura e altre attività forestali	Silviculture and other forestry activities
01.70	01.70.0	Caccia, cattura di animali e servizi connessi	Hunting , trapping and related services
02.20	02.20.0	Utilizzo di aree forestali	Logging
02.30	02.30.0	Raccolta di prodotti selvatici non legnosi	Collection of wild growing non-wood products
02.40	02.40.0	Servizi di supporto per la silvicoltura	Support services to forestry
03.11	03.11.0	Pesca in acque marine e lagunari e servizi connessi	Fishing in marine waters and lagoons and related services
03.12	03.12.0	Pesca in acque dolci e servizi connessi	Freshwater fishing and related services

	03.21.0	Acquacoltura in acqua di mare, salmastra o lagunare e servizi connessi	Aquaculture in seawater , brackish water, or lagoon and related services
03.21			
03.22	03.22.0	Acquacoltura in acque dolci e servizi connessi	Aquaculture in freshwater and related services
05.10	05.10.0	Estrazione di antracite e litantrace	Extraction of anthracite and bituminous coal
05.20	05.20.0	Estrazione di lignite	Mining of lignite
06.10	06.10.0	Estrazione di petrolio greggio	Extraction of crude petroleum
06.20	06.20.0	Estrazione di gas naturale	Extraction of natural gas
07.10	07.10.0	Estrazione di minerali metalliferi ferrosi	Mining of iron ores
07.21	07.21.0	Estrazione di minerali di uranio e di torio	Mining of uranium and thorium ores
07.29	07.29.0	Estrazione di altri minerali metalliferi non ferrosi	Mining of other non-ferrous metal ores
08.11	08.11.0	Estrazione di pietre ornamentali e da costruzione, calcare, pietra da gesso, creta e ardesia	Quarrying of ornamental and building stone, limestone, gypsum, chalk and slate
08.12	08.12.0	Estrazione di ghiaia, sabbia; estrazione di argille e kaolino	Operation of gravel , sand, mining of clays and kaolin
09.10	09.10.0	Attività di supporto all'estrazione di petrolio e di gas naturale	Support activities for petroleum and natural gas
08.91	08.91.0	Estrazione di minerali per l'industria chimica e per la produzione di fertilizzanti	Mining of the chemical industry and for the production of fertilizers
08.92	08.92.0	Estrazione di torba	Extraction of peat
08.93	08.93.0	Estrazione di sale	Extraction of salt
08.99	08.99.0	Estrazione di altri minerali nca	Extraction of other minerals nec
10.11	10.11.0	Produzione di carne non di volatili e di prodotti della macellazione (attività dei mattatoi)	Production of meat and poultry slaughter products (activities of slaughterhouses)
10.12	10.12.0	Produzione di carne di volatili e prodotti della loro macellazione (attività dei mattatoi)	Production of poultry meat and products of their slaughter (activities of slaughterhouses)

	10.13.0	Produzione di prodotti a base di carne (inclusa la carne di volatili)	Production of products of meat (including poultry meat)
10.20	10.20.0	Lavorazione e conservazione di pesce, crostacei e molluschi mediante surgelamento, salatura eccetera	Processing and preserving of fish , crustaceans and molluscs by freezing, salting , etc.
09.90	09.90.0	Attività di supporto per l'estrazione da cave e miniere di altri minerali	Support activities for mining and quarrying of other minerals
10.31	10.31.0	Lavorazione e conservazione delle patate	Processing and preserving of potatoes
10.32	10.32.0	Produzione di succhi di frutta e di ortaggi	Production of fruit juice and vegetable juice
10.39	10.39.0	Lavorazione e conservazione di frutta e di ortaggi (esclusi i succhi di frutta e di ortaggi)	Processing and preserving of fruit and vegetables (excluding fruit juices and vegetables)
10.41	10.41.1	Produzione di olio di oliva da olive prevalentemente non di produzione propria	Production of olive oil from olives that are predominantly non -produced
	10.41.2	Produzione di olio raffinato o grezzo da semi oleosi o frutti oleosi prevalentemente non di produzione propria	Production of crude or refined oil from oil seeds or oleaginous fruits predominantly non -produced
10.41	10.41.3	Produzione di oli e grassi animali grezzi o raffinati	Manufacture of oils and animal fats raw or refined
10.42	10.42.0	Produzione di margarina e di grassi commestibili simili	Manufacture of margarine and similar edible fats
10.51	10.51.1	Trattamento igienico del latte	Hygienic treatment of milk
10.51	10.51.2	Produzione dei derivati del latte	Production of dairy products
10.52	10.52.0	Produzione di gelati senza vendita diretta al pubblico	Manufacture of ice cream without direct sale to the public
11.01	11.01.0	Distillazione, rettifica e miscelatura degli alcolici	Distilling, rectifying and blending of spirits
10.61	10.61.1	Molitura del frumento	Milling of wheat
10.61	10.61.2	Molitura di altri cereali	Milling of other cereals
10.61	10.61.3	Lavorazione del riso	Rice processing
10.61	10.61.4	Altre lavorazioni di semi e granaglie	Other working of seeds and grains
10.62	10.62.0	Produzione di amidi e di prodotti amidacei (inclusa produzione di olio di mais)	Manufacture of starches and starch products (including production of corn oil)
11.02	11.02.1	Produzione di vini da tavola e v.q.p.r.d.	Production of table wines and quality wines psr

	11.02	Produzione di vino spumante e altri vini speciali	Production of sparkling wine and other special wines
11.03	11.03.0	Produzione di sidro e di altri vini a base di frutta	Manufacture of cider and other fruit wines
11.04	11.04.0	Produzione di altre bevande fermentate non distillate	Manufacture of other non-distilled fermented beverages
11.05	11.05.0	Produzione di birra	Brewing
11.06	11.06.0	Produzione di malto	Manufacture of malt
11.07	11.07.0	Industria delle bibite analcoliche, delle acque minerali e di altre acque in bottiglia	Manufacture of soft drinks, mineral waters and other bottled waters
10.71	10.71.1	Produzione di prodotti di panetteria freschi	Production of fresh bakery products
10.71	10.71.2	Produzione di pasticceria fresca	Manufacture of fresh pastry
10.72	10.72.0	Produzione di fette biscottate, biscotti; prodotti di pasticceria conservati	Manufacture of rusks , biscuits , preserved pastry goods
10.73	10.73.0	Produzione di paste alimentari, di cucus e di prodotti farinacei simili	Manufacture of macaroni , noodles, couscous and similar farinaceous products
10.81	10.81.0	Produzione di zucchero	Manufacture of sugar
10.82	10.82.0	Produzione di cacao in polvere, cioccolato, caramelle e confetterie	Production of cocoa , chocolate and sugar confectionery
10.83	10.83.0	Lavorazione del tè e del caffè	Processing of tea and coffee
10.84	10.84.0	Produzione di condimenti e spezie	Manufacture of condiments and spices
10.85	10.85.0	Produzione di pasti e piatti pronti (preparati, conditi, cucinati e confezionati)	Manufacture of prepared meals and ready meals (prepared, seasoned , cooked and packaged)
10.86	10.86.0	Produzione di preparati omogeneizzati e di alimenti dietetici	Manufacture of homogenised food preparations and dietetic food
10.89	10.89.0	Produzione di prodotti alimentari nca	Production of food products nec
10.91	10.91.0	Produzione di mangimi per l'alimentazione degli animali da allevamento	Manufacture of prepared feeds for farm animals
10.92	10.92.0	Produzione di prodotti per l'alimentazione degli animali da	Manufacture of prepared animal feed pet

		compagnia	
12.00	12.00.0	Industria del tabacco	Manufacture of tobacco products
13.10	13.10.0	Preparazione e filatura di fibre tessili	Preparation and spinning of textile fibers
13.20	13.20.0	Tessitura	weaving
13.30	13.30.0	Finissaggio dei tessili, degli articoli di vestiario e attività simili	Finishing of textiles , articles of clothing, and similar activities
14.11	14.11.0	Confezione di abbigliamento in pelle e similpelle	Manufacture of leather clothing and leather
14.12	14.12.0	Confezione di camici, divise ed altri indumenti da lavoro	Pack of gowns, uniforms and other work clothing
14.13	14.13.1	Confezione in serie di abbigliamento esterno	Packaged in sets of outer clothing
14.13	14.13.2	Sartoria e confezione su misura di abbigliamento esterno	Tailoring and made to measure clothing outside
14.14	14.14.0	Confezione di camicie, T-shirt, corsetteria e altra biancheria intima	Pack of shirts, T -shirts, lingerie and other underwear
14.19	14.19.1	Confezioni varie e accessori per l'abbigliamento	Various packs and clothing accessories
14.19	14.19.2	Confezioni di abbigliamento sportivo o indumenti particolari	Packs of sportswear or special clothing
14.20	14.20.0	Confezione di articoli in pelliccia	Manufacture of articles of fur
13.91	13.91.0	Fabbricazione di tessuti a maglia	Manufacture of knitted and crocheted fabrics
14.31	14.31.0	Fabbricazione di articoli di calzetteria in maglia	Manufacture of knitted and crocheted hosiery
13.92	13.92.1	Confezionamento di biancheria da letto, da tavola e per l'arredamento	Packaging of bed linen , table linen and furnishing
13.92	13.92.2	Fabbricazione di articoli in materie tessili nca	Manufacture of articles of textile materials nec
13.93	13.93.0	Fabbricazione di tappeti e moquette	Manufacture of carpets and rugs
13.94	13.94.0	Fabbricazione di spago, corde, funi e reti	Manufacture of cordage, rope , twine and netting
13.95	13.95.0	Fabbricazione di tessuti non tessuti e di articoli in tali materie (esclusi gli articoli di abbigliamento)	Manufacture of non-wovens and articles thereof (excluding articles of apparel)

	13.96.1	Fabbricazione di nastri, etichette e passamanerie di fibre tessili	Manufacture of tapes, labels and trimmings of textile fibers
13.96	13.96.2	Fabbricazione di altri articoli tessili tecnici ed industriali	Manufacture of other technical and industrial textiles
14.39	14.39.0	Fabbricazione di pullover, cardigan ed altri articoli simili a maglia	Manufacture of pullovers, cardigans and similar articles , knitted or crocheted
13.99	13.99.1	Fabbricazione di ricami	Manufacture of embroidery
13.99	13.99.2	Fabbricazione di tulle, pizzi e merletti	Manufacture of tulle and lace
13.99	13.99.9	Fabbricazione di feltro e articoli tessili diversi	Manufacture of textile and felt different
15.11	15.11.0	Preparazione e concia del cuoio e pelle; preparazione e tintura di pellicce	Tanning and dressing of leather; dressing and dyeing of fur
15.12	15.12.0	Fabbricazione di articoli da viaggio, borse e simili, pelletteria e selleria	Manufacture of luggage, handbags and the like , saddlery and harness
15.20	15.20.1	Fabbricazione di calzature	Manufacture of footwear
15.20	15.20.2	Fabbricazione di parti in cuoio per calzature	Manufacture of parts in leather for shoes
16.10	16.10.0	Taglio e pirottatura del legno	Sawmilling and planing of wood
16.21	16.21.0	Fabbricazione di fogli da impiallacciatura e di pannelli a base di legno	Manufacture of veneer sheets and wood-based panels
16.22	16.22.0	Fabbricazione di pavimenti in parquet assemblato	Manufacture of assembled parquet floors
16.23	16.23.1	Fabbricazione di porte e finestre in legno (escluse porte blindate)	Manufacture of doors and windows in wood (excluding doors)
16.23	16.23.2	Fabbricazione di altri elementi in legno e di falegnameria per l'edilizia	Manufacture of other wooden elements and joinery
16.24	16.24.0	Fabbricazione di imballaggi in legno	Manufacture of wooden containers
16.29	16.29.1	Fabbricazione di prodotti vari in legno (esclusi i mobili)	Manufacture of various wooden products (except furniture)
16.29	16.29.2	Fabbricazione dei prodotti della lavorazione del sughero	Manufacture of products of cork processing
16.29	16.29.3	Fabbricazione di articoli in paglia e materiali da intreccio	Manufacture of articles of straw and plaiting materials
16.29	16.29.4	Laboratori di corniciai	Laboratories framers
17.11	17.11.0	Fabbricazione di pasta-carta	Manufacture of pulp
17.12	17.12.0	Fabbricazione di carta e cartone	Manufacture of paper and cardboard

	17.21.0	Fabbricazione di carta e cartone ondulato e di imballaggi di carta e cartone (esclusi quelli in carta pressata)	Manufacture of corrugated paper and paperboard and of containers of paper and paperboard (excluding paper pressed)
17.21			
	17.22.0	Fabbricazione di prodotti igienico-sanitari e per uso domestico in carta e ovatta di cellulosa	Manufacture of sanitary and household paper and cellulose wadding
17.22			
	17.23.0	Fabbricazione di prodotti cartotecnici	Manufacture of paper stationery
17.23			
	17.24.0	Fabbricazione di carta da parati	Manufacture of wallpaper
17.24			
	17.29.0	Fabbricazione di altri articoli di carta e cartone	Manufacture of other articles of paper and paperboard
17.29			
	18.11.0	Stampa di giornali	Printing of newspapers
18.11			
	18.12.0	Altra stampa	other printing
18.12			
	18.13.0	Lavorazioni preliminari alla stampa e ai media	Pre-press and the media
18.13			
	18.14.0	Legatoria e servizi connessi	Bookbinding and related services
18.14			
	18.20.0	Riproduzione di supporti registrati	Reproduction of recorded media
18.20			
	19.10.0	Fabbricazione di prodotti di cokeria	Manufacture of coke oven products
19.10			
	19.20.1	Raffinerie di petrolio	Oil refineries
19.20			
	19.20.2	Preparazione o miscelazione di derivati del petrolio (esclusa la petrolchimica)	Preparation or mixing of petroleum products (excluding petrochemicals)
19.20			
	19.20.3	Miscelazione di gas petroliferi liquefatti (GPL) e loro imbottigliamento	Mixing of liquefied petroleum gas (LPG) and their bottling
19.20			
	19.20.4	Fabbricazione di emulsioni di bitume, di catrame e di leganti per uso stradale	Manufacture of emulsions of bitumen, tar and binders for road use
19.20			
	19.20.9	Fabbricazione di altri prodotti petroliferi raffinati	Manufacture of other refined petroleum products
19.20			
	20.11.0	Fabbricazione di gas industriali	Manufacture of industrial gases
20.11			
	20.12.0	Fabbricazione di coloranti e pigmenti	Manufacture of dyes and pigments
20.12			
	20.13.0	Fabbricazione di altri prodotti chimici di base inorganici	Manufacture of other inorganic basic chemicals
20.13			
	20.14.0	Fabbricazione di altri prodotti chimici di base organici	Manufacture of other organic basic chemicals
20.14			

20.15	20.15.0	Fabbricazione di fertilizzanti e composti azotati (esclusa la fabbricazione di compost)	Manufacture of fertilizers and nitrogen compounds (excluding manufacturing of compost)
20.16	20.16.0	Fabbricazione di materie plastiche in forme primarie	Manufacture of plastics in primary forms
20.17	20.17.0	Fabbricazione di gomma sintetica in forme primarie	Manufacture of synthetic rubber in primary forms
20.20	20.20.0	Fabbricazione di agrofarmaci e di altri prodotti chimici per l'agricoltura (esclusi i concimi)	Manufacture of pesticides and other agrochemical products (excluding fertilizers)
20.30	20.30.0	Fabbricazione di pitture, vernici e smalti, inchiostri da stampa e adesivi sintetici (mastic)	Manufacture of paints, varnishes and similar coatings , printing ink and mastics (adhesives)
20.41	20.41.1	Fabbricazione di saponi, detergenti e di agenti organici tensioattivi (esclusi i prodotti per toiletta)	Manufacture of soap , detergents and organic surface-active agents (excluding toilet preparations)
20.41	20.41.2	Fabbricazione di specialità chimiche per uso domestico e per manutenzione	Manufacture of specialty chemicals for domestic use and for maintenance
20.42	20.42.0	Fabbricazione di prodotti per toiletta: profumi, cosmetici, saponi e simili	Manufacture of toilet preparations : perfumes, cosmetics, soaps , and the like
20.51	20.51.0	Fabbricazione di esplosivi	Manufacture of explosives
20.52	20.52.0	Fabbricazione di colle	Manufacture of glues
20.53	20.53.0	Fabbricazione di oli essenziali	Manufacture of essential oils
20.59	20.59.1	Fabbricazione di prodotti chimici per uso fotografico	Manufacture of photographic chemical material
20.59	20.59.2	Fabbricazione di prodotti chimici organici ottenuti da prodotti di base derivati da processi di fermentazione o da materie prime vegetali	Manufacture of chemical compounds obtained from basic products derived from fermentation processes or vegetable raw materials
20.59	20.59.3	Trattamento chimico degli acidi grassi	Chemical treatment of fatty acids
20.59	20.59.4	Fabbricazione di prodotti chimici vari per uso industriale (inclusi i preparati antidentaloni e antigelo)	Manufacture of chemical products for industrial use (including Anti-knock preparations and anti-freeze)
20.59	20.59.5	Fabbricazione di prodotti chimici impiegati per ufficio e per il consumo non industriale	Manufacture of chemical products used for office and for industrial consumption is not
20.59	20.59.6	Fabbricazione di prodotti ausiliari per le industrie tessili e del cuoio	Manufacture of auxiliary products for textile and leather
20.59	20.59.7	Fabbricazione di prodotti elettrochimici (esclusa produzione di cloro, soda e potassa) ed eletrotermici	Manufacture of electrochemical products (excluding production of chlorine , caustic soda and potash) and electrothermal
20.59	20.59.9	Fabbricazione di altri prodotti chimici nca	Manufacture of other chemical products nec

20.60	20.60.0	Fabbricazione di fibre sintetiche e artificiali	Manufacture of man-made fibers
21.10	21.10.0	Fabbricazione di prodotti farmaceutici di base	Manufacture of basic pharmaceutical products
21.20	21.20.0	Fabbricazione di medicinali e preparati farmaceutici	Manufacture of pharmaceutical preparations
22.11	22.11.1	Fabbricazione di pneumatici e di camere d'aria	Manufacture of rubber tires and inner tubes
22.11	22.11.2	Rigenerazione e ricostruzione di pneumatici	Retreading and rebuilding of rubber tires
22.19	22.19.0	Fabbricazione di altri prodotti in gomma	Manufacture of other rubber products
22.21	22.21.0	Fabbricazione di lastre, fogli, tubi e profilati in materie plastiche	Manufacture of plastic plates , sheets, tubes and profiles in plastic
22.22	22.22.0	Fabbricazione di imballaggi in materie plastiche	Manufacture of plastic packing goods
22.23	22.23.0	Fabbricazione di articoli in plastica per l'edilizia	Manufacture of plastic products for the building industry
22.29	22.29.0	Fabbricazione di altri articoli in materie plastiche	Manufacture of other plastic products
23.11	23.11.0	Fabbricazione di vetro piano	Manufacture of flat glass
23.12	23.12.0	Lavorazione e trasformazione del vetro piano	Shaping and processing of flat glass
23.13	23.13.0	Fabbricazione di vetro cavo	Manufacture of hollow glass
23.14	23.14.0	Fabbricazione di fibre di vetro	Manufacture of glass fibers
23.19	23.19.1	Fabbricazione di vetrerie per laboratori, per uso igienico, per farmacia	Manufacture of glassware for laboratory , hygienic or pharmaceutical
23.19	23.19.2	Lavorazione di vetro a mano e a soffio artistico	Processing of glass and hand blown art
23.19	23.19.9	Fabbricazione di altri prodotti in vetro (inclusa la vetreria tecnica)	Manufacture of other glass products (including technical glassware)
23.20	23.20.0	Fabbricazione di prodotti refrattari	Manufacture of refractory products
23.31	23.31.0	Fabbricazione di piastrelle in ceramica per pavimenti e rivestimenti	Manufacture of ceramic tiles for floors and walls
23.32	23.32.0	Fabbricazione di mattoni, tegole ed altri prodotti per l'edilizia in terracotta	Manufacture of bricks , tiles and construction products, in baked clay

23.41	23.41.0	Fabbricazione di prodotti in ceramica per usi domestici e ornamentali	Manufacture of ceramic household and ornamental articles
23.42	23.42.0	Fabbricazione di articoli sanitari in ceramica	Manufacture of ceramic sanitary fixtures
23.43	23.43.0	Fabbricazione di isolatori e di pezzi isolanti in ceramica	Manufacture of insulators and insulating fittings of ceramics
23.44	23.44.0	Fabbricazione di altri prodotti in ceramica per uso tecnico e industriale	Manufacture of other ceramic products for technical and industrial use
23.49	23.49.0	Fabbricazione di altri prodotti in ceramica	Manufacture of other ceramic products
23.51	23.51.0	Produzione di cemento	Production of cement
23.52	23.52.1	Produzione di calce	Manufacture of lime
23.52	23.52.2	Produzione di gesso	Manufacture of plaster
23.61	23.61.0	Fabbricazione di prodotti in calcestruzzo per l'edilizia	Manufacture of concrete products for the construction industry
23.62	23.62.0	Fabbricazione di prodotti in gesso per l'edilizia	Manufacture of plaster products for construction
23.63	23.63.0	Produzione di calcestruzzo pronto per l'uso	Production of ready-mixed concrete for use
23.64	23.64.0	Produzione di malta	Manufacture of mortars
23.65	23.65.0	Fabbricazione di prodotti in fibrocemento	Manufacture of fiber cement
23.69	23.69.0	Fabbricazione di altri prodotti in calcestruzzo, gesso e cemento	Manufacture of other articles of concrete , plaster and cement
24.10	24.10.0	Siderurgia - Fabbriacazione di ferro, acciaio e ferroleghe	Steel - Manufacture of iron, steel and ferro-alloys
23.70	23.70.1	Segagione e lavorazione delle pietre e del marmo	Sawing and processing of stones and marble
23.70	23.70.2	Lavorazione artistica del marmo e di altre pietre affini, lavori in mosaico	Artistic working of marble and other stones like, mosaic work
23.70	23.70.3	Frantumazione di pietre e minerali vari non in connessione con l'estrazione	Crushing of various rocks and minerals not in conjunction with mining
24.20	24.20.1	Fabbricazione di tubi e condotti senza saldatura	Manufacture of seamless tubes and pipes
24.20	24.20.2	Fabbricazione di tubi e condotti saldati e simili	Manufacture of welded tubes and pipes , and the like

23.91	23.91.0	Produzione di prodotti abrasivi	Production of abrasive products
24.31	24.31.0	Stiratura a freddo di barre	Cold drawing of bars
24.32	24.32.0	Laminazione a freddo di nastri	Cold rolling of strip
24.33	24.33.0	Profilatura mediante formatura o piegatura a freddo; fabbricazione di pannelli stratificati in acciaio	Forming or cold bending ; manufacture of laminated steel panels
24.34	24.34.0	Trafilatura a freddo	Cold drawing of wire
23.99	23.99.0	Fabbricazione di altri prodotti in minerali non metalliferi nca	Manufacture of other non-metallic mineral products nec
24.41	24.41.0	Produzione di metalli preziosi e semilavorati	Production of precious metals and semi-finished
24.42	24.42.0	Produzione di alluminio e semilavorati	Aluminum production and semi-finished
24.43	24.43.0	Produzione di piombo, zinco e stagno e semilavorati	Lead, zinc and tin production
24.44	24.44.0	Produzione di rame e semilavorati	Production of copper and semi-finished
24.45	24.45.0	Produzione di altri metalli non ferrosi e semilavorati	Manufacture of other non-ferrous metals and semi-finished
24.46	24.46.0	Trattamento dei combustibili nucleari (escluso l'arricchimento di uranio e torio)	Processing of nuclear fuel (excluding the enrichment of uranium and thorium)
24.51	24.51.0	Fusione di ghisa e produzione di tubi e raccordi in ghisa	Casting of iron and production of cast iron pipes and fittings
24.52	24.52.0	Fusione di acciaio	Casting of steel
24.53	24.53.0	Fusione di metalli leggeri	Casting of light metals
24.54	24.54.0	Fusione di altri metalli non ferrosi	Casting of other non-ferrous metals
25.11	25.11.0	Fabbricazione di strutture metalliche e parti assemblate di strutture	Manufacture of metal structures and parts of structures assembled
25.12	25.12.1	Fabbricazione di porte, finestre e loro telai, imposte e cancelli metallici	Manufacture of doors, windows and their frames, shutters and gates metal
	25.12.2	Fabbricazione di strutture metalliche per tende da sole, tende alla veneziana e simili	Manufacture of metal structures for awnings, blinds and similar

25.21	25.21.0	Fabbricazione di radiatori e contenitori in metallo per caldaie per il riscaldamento centrale	Manufacture of metal radiators and boilers for central heating
25.29	25.29.0	Fabbricazione di cisterne, serbatoi e contenitori in metallo per impieghi di stoccaggio o di produzione	Manufacture of tanks, reservoirs and containers of metal for use in storage or production
25.30	25.30.0	Fabbricazione di generatori di vapore (esclusi i contenitori in metallo per caldaie per il riscaldamento centrale ad acqua calda)	Manufacture of steam generators (excluding containers of metal for central heating boilers for hot water)
25.40	25.40.0	Fabbricazione di armi e munizioni	Manufacture of weapons and ammunition
25.50	25.50.0	Fucinatura, imbutitura, stampaggio e profilatura dei metalli; metallurgia delle polveri	Forging, pressing, stamping and roll forming of metal , powder metallurgy
26.11	26.11.0	Fabbricazione di componenti elettronici	Manufacture of electronic components
26.12	26.12.0	Fabbricazione di schede elettroniche assemblate	Manufacture of loaded electronic boards
26.20	26.20.0	Fabbricazione di computer e unità periferiche	Manufacture of computers and peripheral equipment
26.30	26.30.1	Fabbricazione di apparecchi trasmittenti radiotelevisivi (incluse le telecamere)	Manufacture of television and radio broadcasting (including cameras)
26.30	26.30.2	Fabbricazione di apparecchi elettrici ed elettronici per telecomunicazioni	Manufacture of electrical and electronic equipment for telecommunications
26.40	26.40.0	Fabbricazione di apparecchi per la riproduzione e registrazione del suono e delle immagini	Manufacture of apparatus for recording and playback of sound and images
26.51	26.51.1	Fabbricazione di strumenti per navigazione, idrologia, geofisica e meteorologia	Manufacture of instruments for navigation, hydrology , geophysics and meteorology
26.51	26.51.2	Fabbricazione di contatori di elettricità, gas, acqua ed altri liquidi, di bilance analitiche di precisione, di apparecchi di misura e regolazione (incluse parti staccate e accessori)	Manufacture of electricity meters , gas , water and other liquids, analytical balances, precision measurement and control equipment (including component parts and accessories)
26.52	26.52.0	Fabbricazione di orologi	Manufacture of watches and clocks
27.11	27.11.0	Fabbricazione di motori, generatori e trasformatori elettrici	Manufacture of electric motors , generators and transformers

27.12	27.12.0	Fabbricazione di apparecchiature per le reti di distribuzione e il controllo dell'elettricità	Manufacture of electricity distribution networks and control apparatus
27.20	27.20.0	Fabbricazione di batterie di pile ed accumulatori elettrici	Manufacture of batteries and electric accumulators
27.31	27.31.0	Fabbricazione di cavi a fibra ottica	Manufacture of fiber optic cables
27.32	27.32.0	Fabbricazione di altri fili e cavi elettrici ed elettronici	Manufacture of other electronic and electric wires and cables
27.33	27.33.0	Fabbricazione di attrezzi per cablaggio	Manufacture of wiring devices
27.40	27.40.0	Fabbricazione di apparecchiature per illuminazione	Manufacture of electric lighting equipment
27.51	27.51.0	Fabbricazione di elettrodomestici	Manufacture of household appliances
27.52	27.52.0	Fabbricazione di apparecchi per uso domestico non elettrici	Manufacture of non-electric domestic appliances
28.11	28.11.1	Fabbricazione di motori a combustione interna (incluse parti e accessori ed esclusi i motori destinati ai mezzi di trasporto su strada e ad aeromobili)	Manufacture of internal combustion engines (including parts and accessories , and excluding engines for road transport and aircraft)
	28.11.2	Fabbricazione di turbine e turboalternatori (incluse parti e accessori)	Manufacture of turbines and turbine generators (including parts and accessories)
28.12	28.12.0	Fabbricazione di apparecchiature fluidodinamiche	Manufacture of fluid power equipment
28.13	28.13.0	Fabbricazione di altre pompe e compressori	Manufacture of other pumps and compressors
28.14	28.14.0	Fabbricazione di altri rubinetti e valvole	Manufacture of other taps and valves
28.15	28.15.1	Fabbricazione di organi di trasmissione (esclusi quelli idraulici e quelli per autoveicoli, aeromobili e motocicli)	Manufacture of transmission equipment (except plumbing and those for motor vehicles, aircraft and motorcycles)
28.15	28.15.2	Fabbricazione di cuscinetti a sfere	Manufacture of bearings
28.21	28.21.1	Fabbricazione di forni, fornaci e bruciatori	Manufacture of ovens, furnaces and furnace burners
28.21	28.21.2	Fabbricazione di sistemi di riscaldamento	Manufacture of heating systems
28.22	28.22.0	Fabbricazione di macchine e apparecchi di sollevamento e movimentazione	Manufacture of electrical machinery and apparatus for lifting and handling equipment

	28.23.0	Fabbricazione di macchine ed attrezzature per ufficio (esclusi computer e unità periferiche)	Manufacture of machinery and equipment (except computers and peripheral equipment)
28.23			
28.24	28.24.0	Fabbricazione di utensili portatili a motore	Manufacture of driven hand tools
28.25	28.25.0	Fabbricazione di attrezzi per la refrigerazione e la ventilazione; fabbricazione di condizionatori domestici fissi	Manufacture of non-domestic cooling and ventilation; manufacture of household air conditioners fixed
28.29	28.29.1	Fabbricazione di bilance e di macchine automatiche per la vendita e la distribuzione (incluse parti staccate e accessori)	Manufacture of scales and automatic machines for the sale and distribution (including component parts and accessories)
28.29	28.29.2	Fabbricazione di macchine e apparecchi per le industrie chimiche, petrolchimiche e petrolifere (incluse parti e accessori)	Manufacture of machinery and equipment for the chemical, petrochemical and oil (including parts and accessories)
28.29	28.29.3	Fabbricazione di macchine automatiche per la dosatura, la confezione e per l'imballaggio (incluse parti e accessori)	Manufacture of automatic machines for dispensing , packaging and packaging (including parts and accessories)
28.29	28.29.9	Fabbricazione di macchine di impiego generale ed altro materiale meccanico nca	Manufacture of general purpose machinery and other mechanical nec
28.30	28.30.1	Fabbricazione di trattori agricoli	Manufacture of agricultural tractors
28.30	28.30.9	Fabbricazione di altre macchine per l'agricoltura, la silvicolture e la zootecnia	Manufacture of other machinery for agriculture , forestry and animal husbandry
28.41	28.41.0	Fabbricazione di macchine utensili per la formatura dei metalli (incluse parti e accessori ed escluse le parti intercambiabili)	Manufacture of machine tools for metal forming (including parts and accessories and interchangeable parts excluded)
28.49	28.49.0	Fabbricazione di altre macchine utensili (incluse parti e accessori)	Manufacture of other machine tools (including parts and accessories)
29.10	29.10.0	Fabbricazione di autoveicoli	Manufacture of motor vehicles
29.20	29.20.0	Fabbricazione di carrozzerie per autoveicoli, rimorchi e semirimorchi	Manufacture of bodies for motor vehicles , trailers and semi-trailers
29.31	29.31.0	Fabbricazione di apparecchiature elettriche ed elettroniche per autoveicoli e loro motori	Manufacture of electrical and electronic equipment for motor vehicles and their engines
29.32	29.32.0	Fabbricazione di altre parti ed accessori per autoveicoli	Manufacture of other parts and accessories for motor vehicles
30.11	30.11.0	Cantieri navali per costruzioni metalliche e non metalliche	Shipyards for structural metallic and non- metallic

	30.12.0	Costruzione di imbarcazioni da diporto e sportive	Building of pleasure and sporting boats
30.20	30.20.0	Costruzione di materiale rotabile ferroviario, tranviario, filoviario, per metropolitane e per miniere	Construction of railway rolling stock, tramway, trolley for underground mines and
30.30	30.30.0	Fabbricazione di aeromobili, di veicoli spaziali e dei relativi dispositivi	Manufacture of air and spacecraft and related machinery
30.40	30.40.0	Fabbricazione di veicoli militari da combattimento	Manufacture of military fighting vehicles
31.01	31.01.1	Fabbricazione di sedie e poltrone per ufficio e negozi	Manufacture of chairs and seats for offices and shops
31.01	31.01.2	Fabbricazione di altri mobili per ufficio e negozi	Manufacture of other office and shop furniture
31.02	31.02.0	Fabbricazione di mobili per cucina	Manufacture of kitchen furniture
31.03	31.03.0	Fabbricazione di materassi	Manufacture of mattresses
31.09	31.09.1	Fabbricazione di mobili per arredo domestico	Manufacture of furniture for domestic furniture
31.09	31.09.2	Fabbricazione di sedie e sedili (esclusi quelli per aeromobili, autoveicoli, navi, treni, ufficio e negozi)	Manufacture of chairs and seats (excluding for aircraft , cars, ships, trains, offices and shops)
31.09	31.09.3	Fabbricazione di poltrone e divani	Manufacture of chairs and sofas
31.09	31.09.4	Fabbricazione di parti e accessori di mobili	Manufacture of parts and accessories of furniture
31.09	31.09.5	Finitura di mobili	Finish Furniture
31.09	31.09.9	Fabbricazione di altri mobili (inclusi quelli per arredo esterno)	Manufacture of other furniture (including those for outdoor furniture)
32.11	32.11.0	Coniazione di monete	Striking of coins
32.12	32.12.1	Fabbricazione di oggetti di gioielleria ed oreficeria in metalli preziosi o rivestiti di metalli preziosi	Manufacture of jewelery and gold jewelery in precious metals or coated with precious metals
32.12	32.12.2	Lavorazione di pietre preziose e semipreziose per gioielleria e per uso industriale	Processing of precious and semiprecious stones for jewelry and for industrial use
32.13	32.13.0	Fabbricazione di bigiotteria e articoli simili	Manufacture of jewelery and related articles
32.20	32.20.0	Fabbricazione di strumenti musicali (incluse parti e accessori)	Manufacture of musical instruments (including parts and accessories)
32.30	32.30.0	Fabbricazione di articoli sportivi	Manufacture of sports goods
32.40	32.40.1	Fabbricazione di giochi (inclusi i giochi elettronici)	Manufacture of games (including electronic games)

	32.40.2	Fabbricazione di giocattoli (inclusi i tricicli e gli strumenti musicali giocattolo)	Manufacture of toys (including tricycles and toy instruments)
32.50	32.50.1	Fabbricazione di mobili per uso medico, apparecchi medicali, di materiale medico-chirurgico e veterinario, di apparecchi e strumenti per odontoiatria (inclusi parti staccate e accessori)	Manufacture of furniture for medical use , medical equipment, medical equipment , surgical and veterinary apparatus and instruments for dentistry (including component parts and accessories)
32.50	32.50.2	Fabbricazione di protesi dentarie (inclusa riparazione)	Manufacture of dental prostheses (including repair)
32.50	32.50.3	Fabbricazione di protesi ortopediche, altre protesi ed ausili (inclusa riparazione)	Manufacture of orthopedic implants , prostheses and other aids (including repair)
32.50	32.50.4	Fabbricazione di lenti oftalmiche	Manufacture of ophthalmic lenses
32.50	32.50.5	Fabbricazione di armature per occhiali di qualsiasi tipo; montatura in serie di occhiali comuni	Manufacture of armor for glasses of any type ; Frame series of glasses in common
33.11	33.11.0	Riparazione e manutenzione di prodotti in metallo	Repair and maintenance of metal products
33.12	33.12.1	Riparazione e manutenzione di macchine di impiego generale	Repair and maintenance of general purpose machinery
33.12	33.12.2	Riparazione e manutenzione di forni, fornaci e bruciatori	Repair and maintenance services of ovens, furnaces and furnace burners
33.12	33.12.3	Riparazione e manutenzione di macchine e apparecchi di sollevamento e movimentazione (esclusi ascensori)	Repair and maintenance of machinery and equipment for lifting and handling equipment (excluding lifts)
33.12	33.12.4	Riparazione e manutenzione di attrezzature di uso non domestico per la refrigerazione e la ventilazione	Repair and maintenance of equipment, non-domestic cooling and ventilation
33.12	33.12.5	Riparazione e manutenzione di altre macchine di impiego generale	Repair and maintenance of other general purpose machinery
33.12	33.12.6	Riparazione e manutenzione di trattori agricoli	Repair and maintenance of agricultural tractors
33.12	33.12.7	Riparazione e manutenzione di altre macchine per l'agricoltura, la silvicoltura e la zootecnica	Repair and maintenance of other machines for agriculture , forestry and animal husbandry
33.12	33.12.9	Riparazione e manutenzione di altre macchine per impieghi speciali (inclusi le macchine utensili)	Repair and maintenance of other special purpose machinery (including machine tools)
33.13	33.13.0	Riparazione e manutenzione di apparecchiature elettroniche ed ottiche (escluse quelle per le telecomunicazioni ed i computer)	Repair and maintenance of electronic and optical equipment (excluding those for telecommunications and computers)
33.14	33.14.0	Riparazione e manutenzione di apparecchiature elettriche (esclusi gli elettrodomestici)	Repair and maintenance of electrical equipment (excluding appliances)
33.15	33.15.0	Riparazione e manutenzione di navi commerciali e imbarcazioni da diporto (esclusi i loro motori)	Repair and maintenance of commercial vessels and recreational craft (excluding their engines)
33.16	33.16.0	Riparazione e manutenzione di aeromobili e di veicoli spaziali	Repair and maintenance of aircraft and spacecraft

33.17	33.17.0	Riparazione e manutenzione di materiale rotabile ferroviario, tranviario, filoviario e per metropolitane (esclusi i loro motori)	Repair and maintenance of railway rolling stock, tram , trolleybus and metro (excluding their engines)
33.19	33.19.0	Riparazione di altre apparecchiature	Repair of other equipment
33.20	33.20.0	Installazione di macchine ed apparecchiature industriali	Installation of industrial machinery and equipment
35.11	35.11.0	Produzione di energia elettrica	Production of electricity
35.12	35.12.0	Trasmissione di energia elettrica	Electricity transmission
35.13	35.13.0	Distribuzione di energia elettrica	Distribution of electricity
35.14	35.14.0	Commercio di energia elettrica	Trade of electricity
35.21	35.21.0	Produzione di gas	Production of gas
35.22	35.22.0	Distribuzione di combustibili gassosi mediante condotte	Distribution of gaseous fuels through mains
35.23	35.23.0	Commercio di gas distribuito mediante condotte	Trade of gas through mains
35.30	35.30.0	Fornitura di vapore e aria condizionata	Supply of steam and air conditioning
36.00	36.00.0	Raccolta, trattamento e fornitura di acqua	Collection , treatment and supply of water
37.00	37.00.0	Raccolta e depurazione delle acque di scarico	Collection and treatment of sewage
38.11	38.11.0	Raccolta di rifiuti solidi non pericolosi	Collection of non-hazardous solid waste
38.12	38.12.0	Raccolta di rifiuti pericolosi solidi e non solidi	Collection of hazardous waste solid and non-solid
38.21	38.21.0	Trattamento e smaltimento di rifiuti non pericolosi; produzione di compost	Treatment and disposal of non-hazardous waste compost production
38.22	38.22.0	Trattamento e smaltimento di rifiuti pericolosi	Treatment and disposal of hazardous waste
38.31	38.31.1	Demolizione di carcasse	Dismantling of wrecks
38.31	38.31.2	Cantieri di demolizione navali	Ship breaking yards

	38.32.1	Recupero e preparazione per il riciclaggio di cascami e rottami metallici	Recovery and preparation for the recycling of metal waste and scrap
38.32	38.32.2	Recupero e preparazione per il riciclaggio di materiale plastico per produzione di materie prime plastiche, resine sintetiche	Recovery and preparation for the recycling of plastic materials for production of plastic raw materials , synthetic resins
38.32	38.32.3	Recupero e preparazione per il riciclaggio dei rifiuti solidi urbani, industriali e biomasse	Recovery and preparation for recycling of municipal solid waste , industrial and biomass
39.00	39.00.0	Attività di risanamento e altri servizi di gestione dei rifiuti	Remediation activities and other waste management services
41.10	41.10.0	Sviluppo di progetti immobiliari senza costruzione	Development of building projects without construction
41.20	41.20.0	Costruzione di edifici residenziali e non residenziali	Construction of residential and non-residential
42.11	42.11.0	Costruzione di strade, autostrade e piste aeroportuali	Construction of roads , highways and airport runways
42.12	42.12.0	Costruzione di linee ferroviarie e metropolitane	Construction of railways and underground railways
42.13	42.13.0	Costruzione di ponti e gallerie	Construction of bridges and tunnels
42.21	42.21.0	Costruzione di opere di pubblica utilità per il trasporto di fluidi	Construction of works of public utility for the transport of fluids
42.22	42.22.0	Costruzione di opere di pubblica utilità per l'energia elettrica e le telecomunicazioni	Construction of works of public utility for electricity and telecommunications
43.11	43.11.0	Demolizione	demolition
43.12	43.12.0	Preparazione del cantiere edile e sistemazione del terreno	Site preparation and land development
43.13	43.13.0	Trivellazioni e perforazioni	Test drilling and boring
43.21	43.21.0	Installazione di impianti elettrici ed elettronici (inclusa manutenzione e riparazione)	Installation of electrical and electronic equipment (including maintenance and repair)
43.22	43.22.0	Installazione di impianti idraulici, di riscaldamento e di condizionamento dell'aria (inclusa manutenzione e riparazione)	Plumbing , heating and air conditioning equipment (including maintenance and repair)
43.29	43.29.0	Altri lavori di costruzione e installazione	Other construction and installation
43.31	43.31.0	Intonacatura e stuccatura	Plaster or stucco

	43.32.0	Posa in opera di infissi, arredi, controsoffitti, pareti mobili e simili	Installation of fixtures, furnishings , ceilings, furniture and the like
43.32			
43.33	43.33.0	Rivestimento di pavimenti e di muri	Floor and walls
43.34	43.34.0	Tinteggiatura e posa in opera di vetri	Painting and installation of glazing
43.39	43.39.0	Altri lavori di completamento e di finitura degli edifici	Other building completion and finishing works
45.11	45.11.0	Commercio di autovetture e di autoveicoli leggeri	Sale of cars and light motor vehicles
45.19	45.19.0	Commercio di altri autoveicoli	Sale of other motor vehicles
45.20	45.20.1	Riparazioni meccaniche di autoveicoli	Mechanical repair of motor vehicles
45.20	45.20.2	Riparazione di carrozzerie di autoveicoli	Body repair of motor vehicles
45.20	45.20.3	Riparazione di impianti elettrici e di alimentazione per autoveicoli	Repair of electrical and automotive power
45.20	45.20.4	Riparazione e sostituzione di pneumatici per autoveicoli	Repair and replacement of tires for motor vehicles
45.20	45.20.9	Autolavaggio e altre attività di manutenzione	Car-washing and other maintenance activities
45.31	45.31.0	Commercio all'ingrosso ed intermediazione di parti e accessori di autoveicoli	Wholesale and brokerage of parts and accessories of motor vehicles
45.32	45.32.0	Commercio al dettaglio di parti e accessori di autoveicoli	Retail sale of parts and accessories of motor vehicles
45.40	45.40.1	Commercio all'ingrosso e al dettaglio ed intermediazione di motocicli e ciclomotori	Wholesale and retail trade and brokerage of motorcycles and mopeds
45.40	45.40.2	Commercio all'ingrosso e al dettaglio ed intermediazione di parti e accessori per motocicli e ciclomotori	Wholesale and retail trade and brokerage of parts and accessories for motorcycles and mopeds
45.40	45.40.3	Manutenzione e riparazione di motocicli e ciclomotori (inclusi i pneumatici)	Maintenance and repair of motorcycles and mopeds (including tires)
46.11	46.11.0	Intermediari del commercio di materie prime agricole, di animali vivi, di materie prime tessili e di semilavorati; pelli grezze	Agents involved in the sale of agricultural raw materials , live animals , textile raw materials and semi-finished products , raw hides
46.12	46.12.0	Intermediari del commercio di combustibili, minerali, metalli e prodotti chimici	Agents involved in the sale of fuels, ores, metals and industrial chemicals
46.13	46.13.0	Intermediari del commercio di legname e materiali da costruzione	Agents involved in the sale of timber and building materials

46.14	46.14.0	Intermediari del commercio di macchinari, impianti industriali, navi e aeromobili, macchine agricole, macchine per ufficio, attrezzature per le telecomunicazioni, computer e loro periferiche
46.15	46.15.0	Intermediari del commercio di mobili, articoli per la casa e ferramenta
46.16	46.16.0	Intermediari del commercio di prodotti tessili, abbigliamento, pellicce, calzature e articoli in pelle
46.17	46.17.0	Intermediari del commercio di prodotti alimentari, bevande e tabacco
46.18	46.18.1	Intermediari del commercio di prodotti di carta, cancelleria, libri
46.18	46.18.2	Intermediari del commercio di elettronica di consumo audio e video, materiale elettrico per uso domestico, elettrodomestici
46.18	46.18.3	Intermediari del commercio di prodotti farmaceutici e di cosmetici
46.18	46.18.9	Intermediari del commercio di attrezzature sportive, biciclette e altri prodotti nca
46.19	46.19.0	Intermediari del commercio di vari prodotti senza prevalenza di alcuno
46.21	46.21.1	Commercio all'ingrosso di cereali e legumi secchi
46.21	46.21.2	Commercio all'ingrosso di semi e alimenti per il bestiame (mangimi), piante officinali, semi oleosi, patate da semina, tabacco grezzo
46.22	46.22.0	Commercio all'ingrosso di fiori e piante
46.23	46.23.0	Commercio all'ingrosso di animali vivi
46.24	46.24.1	Commercio all'ingrosso di cuoio e pelli gregge e lavorate (escluse le pelli per pellicceria)
46.24	46.24.2	Commercio all'ingrosso di pelli gregge e lavorate per pellicceria
46.31	46.31.1	Commercio all'ingrosso di frutta e ortaggi freschi
46.31	46.31.2	Commercio all'ingrosso di frutta e

		ortaggi conservati	
46.32	46.32.1	Commercio all'ingrosso di carne fresca, congelata e surgelata	Wholesale of fresh meat, frozen and deep-frozen
46.32	46.32.2	Commercio all'ingrosso di prodotti di salumeria	Wholesale of meat products
46.33	46.33.1	Commercio all'ingrosso di prodotti lattiero-caseari e di uova	Wholesale of dairy products and eggs
46.33	46.33.2	Commercio all'ingrosso di oli e grassi alimentari di origine vegetale o animale	Wholesale of edible fats and oils of vegetable or animal origin
46.34	46.34.1	Commercio all'ingrosso di bevande alcoliche	Wholesale of alcoholic beverages
46.34	46.34.2	Commercio all'ingrosso di bevande non alcoliche	Wholesale of non-alcoholic beverages
46.35	46.35.0	Commercio all'ingrosso di prodotti del tabacco	Wholesale of tobacco products
46.36	46.36.0	Commercio all'ingrosso di zucchero, cioccolato, dolciumi e prodotti da forno	Wholesale of sugar, chocolate, confectionery and bakery products
46.37	46.37.0	Commercio all'ingrosso di caffè, tè, cacao e spezie	Wholesale of coffee , tea, cocoa and spices
46.38	46.38.1	Commercio all'ingrosso di prodotti della pesca freschi	Wholesale of fresh fishery products
46.38	46.38.2	Commercio all'ingrosso di prodotti della pesca congelati, surgelati, conservati, secchi	Wholesale of frozen fishery products , frozen foods, preserved, dried
46.38	46.38.3	Commercio all'ingrosso di pasti e piatti pronti	Wholesale of prepared meals and dishes
46.38	46.38.9	Commercio all'ingrosso di altri prodotti alimentari	Wholesale of other food products
46.39	46.39.1	Commercio all'ingrosso non specializzato di prodotti surgelati	Non-specialized wholesale of frozen products
46.39	46.39.2	Commercio all'ingrosso non specializzato di altri prodotti alimentari, bevande e tabacco	Non-specialized wholesale of other food products , beverages and tobacco
46.41	46.41.1	Commercio all'ingrosso di tessuti	Wholesale of textiles
46.41	46.41.2	Commercio all'ingrosso di articoli di merceria, filati e passamaneria	Wholesale of haberdashery , trimmings and yarns
46.41	46.41.9	Commercio all'ingrosso di altri articoli tessili	Wholesale of other textile
46.42	46.42.1	Commercio all'ingrosso di abbigliamento e accessori	Wholesale of clothing and accessories
46.42	46.42.2	Commercio all'ingrosso di articoli in pelliccia	Wholesale fur
46.42	46.42.3	Commercio all'ingrosso di camicie, biancheria intima, maglieria e simili	Wholesale shirts, underwear, and similar
46.42	46.42.4	Commercio all'ingrosso di calzature e accessori	Wholesale footwear and accessories

	46.43.1	Commercio all'ingrosso di elettrodomestici, di elettronica di consumo audio e video	Wholesale of electrical household appliances, consumer electronics audio and video
46.43	46.43.2	Commercio all'ingrosso di supporti registrati, audio, video (Cd, Dvd e altri supporti)	Wholesale of recorded media, audio , video (CDs, DVDs and other media)
46.43	46.43.3	Commercio all'ingrosso di articoli per fotografia, cinematografia e ottica	Wholesale of photographic , cinematographic and optical apparatus
46.44	46.44.1	Commercio all'ingrosso di vetreria e cristalleria	Wholesale of glassware and glassware
46.44	46.44.2	Commercio all'ingrosso di ceramiche e porcellana	Wholesale pottery and porcelain
46.44	46.44.3	Commercio all'ingrosso di saponi, detersivi e altri prodotti per la pulizia	Wholesale of soaps , detergents and other cleaning products
46.44	46.44.4	Commercio all'ingrosso di coltelleria, posateria e pentolame	Wholesale of cutlery , cutlery , pots and pans
46.45	46.45.0	Commercio all'ingrosso di profumi e cosmetici	Wholesale of perfume and cosmetics
46.46	46.46.1	Commercio all'ingrosso di medicinali	Wholesale of medicines
46.46	46.46.2	Commercio all'ingrosso di prodotti botanici per uso farmaceutico	Wholesale of botanical products for pharmaceutical use
46.46	46.46.3	Commercio all'ingrosso di articoli medicali ed ortopedici	Wholesale of medical and orthopedic goods
46.47	46.47.1	Commercio all'ingrosso di mobili di qualsiasi materiale	Wholesale of furniture of any material
46.47	46.47.2	Commercio all'ingrosso di tappeti	Wholesale of carpets
46.47	46.47.3	Commercio all'ingrosso di articoli per l'illuminazione; materiale elettrico vario per uso domestico	Wholesale of lighting equipment and electrical goods for various household
46.48	46.48.0	Commercio all'ingrosso di orologi e di gioielleria	Wholesale of watches and jewelery
46.49	46.49.1	Commercio all'ingrosso di carta, cartone e articoli di cartoleria	Wholesale of paper, cardboard and stationery
46.49	46.49.2	Commercio all'ingrosso di libri, riviste e giornali	Wholesale of books, magazines and newspapers
46.49	46.49.3	Commercio all'ingrosso di giochi e giocattoli	Wholesale of toys and games
46.49	46.49.4	Commercio all'ingrosso di articoli sportivi (incluse le biciclette)	Wholesale of sports goods (including bicycles)
46.49	46.49.5	Commercio all'ingrosso di articoli in pelle; articoli da viaggio in qualsiasi materiale	Wholesale of leather goods, luggage in any material
46.49	46.49.9	Commercio all'ingrosso di vari prodotti di consumo non alimentare nca	Wholesale of various non-food consumer products nec
46.51	46.51.0	Commercio all'ingrosso di computer, apparecchiature informatiche periferiche e di software	Wholesale of computers , computer peripheral equipment and software

	46.52.0	Commercio all'ingrosso apparecchiature elettroniche per telecomunicazioni e componenti elettronici	Wholesale electronic equipment for telecommunications and electronic components
46.52			
47.11	47.11.1	Ipermercati	hypermarkets
47.11	47.11.2	Supermercati	supermarkets
47.11	47.11.3	Discount di alimentari	Discount grocery
47.11	47.11.4	Minimercati ed altri esercizi non specializzati di alimentari vari	Mini-markets and other non-specialized stores of various food
47.11	47.11.5	Commercio al dettaglio di prodotti surgelati	Retail sale of frozen products
47.19			
47.19	47.19.1	Grandi magazzini	Department Stores
47.19	47.19.2	Commercio al dettaglio in esercizi non specializzati di computer, periferiche, attrezzature per le telecomunicazioni, elettronica di consumo audio e video, elettrodomestici	Retail sale in non-specialized stores with computers, peripherals, telecommunications equipment , consumer electronics audio and video appliances
47.19	47.19.9	Empori ed altri negozi non specializzati di vari prodotti non alimentari	Convenience stores and other non-specialized stores of various non-food products
47.21			
47.21	47.21.0	Commercio al dettaglio di frutta e verdura	Retail sale of fruit and vegetables
47.22			
47.22	47.22.0	Commercio al dettaglio di carni e di prodotti a base di carne	Retail sale of meat and meat products
47.23			
47.23	47.23.0	Commercio al dettaglio di pesci, crostacei e molluschi	Retail sale of fish, crustaceans and molluscs
47.24			
47.24	47.24.1	Commercio al dettaglio di pane	Retail sale of bread
47.24	47.24.2	Commercio al dettaglio di torte, dolciumi, confetteria	Retail sale of cakes , sweets, confectionery
47.25			
47.25	47.25.0	Commercio al dettaglio di bevande	Retail sale of beverages
47.26			
47.26	47.26.0	Commercio al dettaglio di generi di monopolio (tabaccherie)	Retail sale of monopolies (tobacco shops)
47.29			
47.29	47.29.1	Commercio al dettaglio di latte e di prodotti lattiero-caseari	Retail sale of milk and dairy products
47.29	47.29.2	Commercio al dettaglio di caffè torrefatto	Retail sale of roasted coffee beans
47.29	47.29.3	Commercio al dettaglio di prodotti macrobiotici e dietetici	Retail products macrobiotic diet
47.29	47.29.9	Commercio al dettaglio di altri prodotti alimentari in esercizi specializzati nca	Retail sale of other food products in specialized stores nec
47.30			
47.30	47.30.0	Commercio al dettaglio di carburante per autotrazione	Retail sale of automotive fuel
47.41			
47.41	47.41.0	Commercio al dettaglio di computer, unità periferiche, software e attrezzature per ufficio	Retail sale of computers, peripheral units , software and office equipment in specialized stores

		in esercizi specializzati	
47.42	47.42.0	Commercio al dettaglio di apparecchiature per le telecomunicazioni e la telefonia in esercizi specializzati	Retail sale of telecommunications equipment and telephony in specialized stores
47.43	47.43.0	Commercio al dettaglio di apparecchi audio e video in esercizi specializzati	Retail sale of audio and video equipment in specialized stores
47.51	47.51.1	Commercio al dettaglio di tessuti per l'abbigliamento, l'arredamento e di biancheria per la casa	Retail sale of textiles for clothing , furniture and household linen
47.51	47.51.2	Commercio al dettaglio di filati per maglieria e merceria	Retail sale of knitting yarn and haberdashery
47.52	47.52.1	Commercio al dettaglio di ferramenta, vernici, vetro piano e materiale elettrico e termoidraulico	Retail sale of hardware, paints , glass and electrical and plumbing and heating
47.52	47.52.2	Commercio al dettaglio di articoli igienico-sanitari	Retail sale of sanitary
47.52	47.52.3	Commercio al dettaglio di materiali da costruzione, ceramiche e piastrelle	Retail sale of building materials , ceramics and tiles
47.52	47.52.4	Commercio al dettaglio di macchine, attrezzature e prodotti per l'agricoltura; macchine e attrezzature per il giardinaggio	Retail sale of machinery, equipment and products for agriculture , machinery and equipment for gardening
47.53	47.53.1	Commercio al dettaglio di tappeti, tende e tendine	Retail sale of carpets, curtains and blinds
47.53	47.53.2	Commercio al dettaglio di carta da parati e rivestimenti per pavimenti (moquette e linoleum)	Retail sale of wallpaper and floor coverings (carpet and linoleum)
47.54	47.54.0	Commercio al dettaglio di elettrodomestici in esercizi specializzati	Retail sale of electrical household appliances in specialized stores
47.59	47.59.1	Commercio al dettaglio di mobili per la casa	Retail sale of household furniture
47.59	47.59.2	Commercio al dettaglio di utensili per la casa, di cristallerie e vasellame	Retail sale of household utensils , glassware and pottery of
47.59	47.59.3	Commercio al dettaglio di articoli per l'illuminazione	Retail sale of articles for lighting
47.59	47.59.4	Commercio al dettaglio di macchine per cucire e per maglieria per uso domestico	Retail sale of sewing machines and knitting machines for domestic use
47.59	47.59.5	Commercio al dettaglio di sistemi di sicurezza	Retail sale of security systems
47.59	47.59.6	Commercio al dettaglio di strumenti musicali e spartiti	Retail sale of musical instruments and sheet music
47.59	47.59.9	Commercio al dettaglio di altri articoli diversi per uso domestico nca	Retail sale of other household articles other than nec

	49.10.0	Trasporto ferroviario di passeggeri (interurbano)	Passenger rail (interurban)
49.20	49.20.0	Trasporto ferroviario di merci	Freight rail transport
49.31	49.31.0	Trasporto terrestre di passeggeri in aree urbane e suburbane	Land transport of passengers in urban and suburban areas
49.32	49.32.1	Trasporto con taxi	Taxi
	49.32.2	Trasporto mediante noleggio di autovetture da rimessa con conducente	Transport by car rental with driver from remittance
49.32			
49.39	49.39.0	Altri trasporti terrestri di passeggeri nca	Other passenger land transport nec
49.41	49.41.0	Trasporto di merci su strada	Freight transport by road
49.42	49.42.0	Servizi di trasloco	Removal services
49.50	49.50.1	Trasporto mediante condotte di gas	Transportation by pipeline of gas
49.50	49.50.2	Trasporto mediante condotte di liquidi	Transport via pipelines of liquid
50.10	50.10.0	Trasporto marittimo e costiero di passeggeri	Sea and coastal passenger water transport
50.20	50.20.0	Trasporto marittimo e costiero di merci	Sea and coastal freight water transport
50.30	50.30.0	Trasporto di passeggeri per vie d'acqua interne (inclusi i trasporti lagunari)	Passenger transport by inland waterways (including transport lagoon)
50.40	50.40.0	Trasporto di merci per vie d'acqua interne	Carriage of goods by inland waterways
51.10	51.10.1	Trasporto aereo di linea di passeggeri	Scheduled air transport of passengers
51.10	51.10.2	Trasporto aereo non di linea di passeggeri; voli charter	Non-scheduled air transport of passengers, charter flights
51.21	51.21.0	Trasporto aereo di merci	Air Freight
51.22	51.22.0	Trasporto spaziale	space transportation
52.10	52.10.1	Magazzini di custodia e deposito per conto terzi	Storage facilities and storage for third parties
52.10	52.10.2	Magazzini frigoriferi per conto terzi	Cold storage facilities for third parties
52.21	52.21.1	Gestione di infrastrutture	Management of railway infrastructure

		ferroviarie	
52.21	52.21.2	Gestione di strade, ponti, gallerie	Management of roads, bridges, tunnels
52.21	52.21.3	Gestione di stazioni per autobus	Management of bus stations
52.21	52.21.4	Gestione di centri di movimentazione merci (interporti)	Management of centers of cargo handling (freight)
52.21	52.21.5	Gestione di parcheggi e autorimesse	Management of parking lots and garages
52.21	52.21.6	Attività di traino e soccorso stradale	Activities of towing and roadside assistance
52.21	52.21.9	Altre attività connesse ai trasporti terrestri nca	Other activities related to land transport nec
52.22	52.22.0	Attività dei servizi connessi al trasporto marittimo e per vie d'acqua	Service activities incidental to maritime transport and inland water
52.23	52.23.0	Attività dei servizi connessi al trasporto aereo	Service activities incidental to air transportation
52.24	52.24.1	Movimento merci relativo a trasporti aerei	Material handling related to aircraft
52.24	52.24.2	Movimento merci relativo a trasporti marittimi e fluviali	Material handling related to maritime and fluvial transport
52.24	52.24.3	Movimento merci relativo a trasporti ferroviari	Material handling related to rail transport
52.24	52.24.4	Movimento merci relativo ad altri trasporti terrestri	Material handling relative to other land transport
52.29	52.29.1	Spedizionieri e agenzie di operazioni doganali	Shippers and customs agencies
52.29	52.29.2	Intermediari dei trasporti, servizi logistici	Agents involved in the transport , logistics services
53.10	53.10.0	Attività postali con obbligo di servizio universale	Postal activities under universal service obligation
53.20	53.20.0	Altre attività postali e di corriere senza obbligo di servizio universale	Other postal and courier without universal service obligation
55.10	55.10.0	Alberghi	Hotels
55.20	55.20.1	Villaggi turistici	resorts
55.20	55.20.2	Ostelli della gioventù	Youth hostels
55.20	55.20.3	Rifugi di montagna	Mountain shelter
55.20	55.20.4	Colonie marine e montane	Sea and mountain colonies
55.20	55.20.5	Affittacamere per brevi soggiorni, case ed appartamenti per vacanze, bed and breakfast, residence, alloggio connesso alle aziende agricole	House for short stays, holiday homes and apartments , bed and breakfast, inn , lodging connected to farms
55.30	55.30.0	Aree di campeggio e aree attrezzate per camper e roulotte	Camping grounds, recreational vehicle parks and trailer

	56.10.1	Ristorazione con somministrazione; ristorazione connessa alle aziende agricole	
56.10	56.10.2	Ristorazione senza somministrazione con preparazione di cibi da asporto	Dining with administration, catering connected to farms
56.10	56.10.3	Gelaterie e pasticcerie	
56.10	56.10.4	Ristorazione ambulante e gelaterie ambulanti	Food without administration with food preparation takeaway
56.10	56.10.5	Ristorazione su treni e navi	Ice cream parlors and pastry shops
			Catering itinerant peddlers and ice cream parlors
			Catering on trains and ships
56.21	56.21.0	Catering per eventi, banqueting	Catering for events , banqueting
56.29	56.29.1	Mense	canteens
56.29	56.29.2	Catering continuativo su base contrattuale	Catering continuously on a contractual basis
56.30	56.30.0	Bar e altri esercizi simili senza cucina	Bar and other similar exercises without kitchen
58.11	58.11.0	Edizione di libri	Publishing of books
58.12	58.12.0	Pubblicazione di elenchi e mailing list	Publishing of directories and mailing lists
58.13	58.13.0	Edizione di quotidiani	Publishing of newspapers
58.14	58.14.0	Edizione di riviste e periodici	Publishing of journals and periodicals
58.19	58.19.0	Altre attività editoriali	Other publishing activities
58.21	58.21.0	Edizione di giochi per computer	Publishing of computer games
58.29	58.29.0	Edizione di altri software a pacchetto (esclusi giochi per computer)	Other software publishing in package (except computer games)
59.11	59.11.0	Attività di produzione cinematografica, di video e di programmi televisivi	Motion picture , video and television program
59.12	59.12.0	Attività di post-produzione cinematografica, di video e di programmi televisivi	Post-production activities Motion picture, video and television program
59.13	59.13.0	Attività di distribuzione cinematografica, di video e di programmi televisivi	Distribution activities Motion picture, video and television program
59.14	59.14.0	Attività di proiezione cinematografica	Motion picture projection activities

	59.20.1	Edizione di registrazioni sonore	
59.20			Publishing of sound recordings
59.20	59.20.2	Edizione di musica stampata	Edition of printed music
59.20	59.20.3	Studi di registrazione sonora	Sound recording studios
60.10	60.10.0	Trasmissioni radiofoniche	radio broadcasting
60.20	60.20.0	Programmazione e trasmissioni televisive	Programming and TV
61.10	61.10.0	Telecomunicazioni fisse	fixed Telecommunications
61.20	61.20.0	Telecomunicazioni mobili	mobile Telecommunications
61.30	61.30.0	Telecomunicazioni satellitari	satellite telecommunications
62.01	62.01.0	Produzione di software non connesso all'edizione	Production of software is not connected to the edition
62.02	62.02.0	Consulenza nel settore delle tecnologie dell'informatica	Consulting in the field of computer technologies
62.03	62.03.0	Gestione di strutture e apparecchiature informatiche hardware - housing (esclusa la riparazione)	Facilities management and computer equipment hardware - housing (excluding repair)
62.09	62.09.0	Altre attività dei servizi connessi alle tecnologie dell'informatica	Other service activities related to computer technologies
63.11	63.11.1	Elaborazione dati	data Processing
63.11	63.11.2	Gestione database (attività delle banche dati)	Database management (activities of databases)
63.11	63.11.3	Hosting e fornitura di servizi applicativi (ASP)	Hosting and application service provider (ASP)
63.12	63.12.0	Portali web	web Portals
64.11	64.11.0	Attività della Banca Centrale	Central banking
64.19	64.19.1	Intermediazione monetaria di istituti monetari diverse dalle Banche centrali	Monetary intermediation of monetary institutions other than central banks
64.19	64.19.2	Fondi comuni di investimento monetario	Mutual funds Money
64.19	64.19.3	Istituti di moneta elettronica (Imel)	Electronic money institutions (Imel)
64.19	64.19.4	Cassa Depositi e Prestiti	Deposits and Loans
64.20	64.20.0	Attività delle società di partecipazione (holding)	Activities of holding companies (holding companies)

	64.30.1	Fondi comuni di investimento (aperti e chiusi, immobiliari, di mercato mobiliare)	Mutual funds (open and closed , real estate, securities market)
64.30	64.30.2	Sicav (Società di investimento a capitale variabile)	SICAV (Investment company with variable capital)
65.11	65.11.0	Assicurazioni sulla vita	Life Insurance
65.12	65.12.0	Assicurazioni diverse da quelle sulla vita	Insurance other than life assurance
65.20	65.20.0	Attività di riassicurazione	Reinsurance activities
65.30	65.30.1	Attività dei fondi pensione aperti	Activities of open pension funds
65.30	65.30.2	Attività dei fondi pensione negoziali	Activities of pension funds
65.30	65.30.3	Attività dei fondi pensione preesistenti	Existing assets of pension funds
66.11	66.11.0	Amministrazione di mercati finanziari	Administration of financial markets
66.12	66.12.0	Attività di negoziazione di contratti relativi a titoli e merci	Trading of contracts relating to securities and commodities
66.19	66.19.1	Attività di gestione ed elaborazione di pagamenti tramite carta di credito	Management activities and processing payments by credit card
66.19	66.19.2	Attività di promotori e mediatori finanziari	Activities of financial advisors and brokers
66.19	66.19.3	Attività delle società fiduciarie di amministrazione	Activities of trustees of directors
66.19	66.19.4	Attività di Bancoposta	Activities Bancoposta
66.19	66.19.5	Servizi di trasferimento di denaro (money transfer)	Money transfer services (money transfer)
66.21	66.21.0	Attività dei periti e liquidatori indipendenti delle assicurazioni	Activities of independent appraisers and liquidators of insurance
66.22	66.22.0	Attività degli agenti e broker delle assicurazioni	Activities of insurance agents and brokers
66.29	66.29.0	Altre attività ausiliarie delle assicurazioni e dei fondi pensione	Other activities auxiliary to insurance and pension funds
66.30	66.30.0	Gestione di fondi comuni di investimento e dei fondi pensione	Management of mutual funds and pension funds
68.10	68.10.0	Compravendita di beni immobili effettuata su beni propri	Buying and selling real estate assets carried on its
68.20	68.20.0	Affitto e gestione di immobili di proprietà o in leasing	Renting and operating of properties owned or leased
68.31	68.31.0	Attività di mediazione immobiliare	In real estate brokerage

	68.32.0	Amministrazione di condomini e gestione di beni immobili per conto terzi	Directors of condos and management of real estate on behalf of third parties
68.32			
69.10	69.10.1	Attività degli studi legali	Legal activities
69.10	69.10.2	Attività degli studi notarili	
69.20	69.20.1	Attività degli studi commerciali, tributari e revisione contabile	Activities of business studies, tax and auditing
69.20	69.20.2	Attività delle società di revisione e certificazione di bilanci	
69.20	69.20.3	Attività dei consulenti del lavoro	Activities of independent auditors and certification of financial statements Activities of employment consultants
70.10	70.10.0	Attività delle holding impegnate nelle attività gestionali (holding operative)	
70.21	70.21.0	Pubbliche relazioni e comunicazione	Activities of holding companies engaged in management activities (holding companies) Public relations and communication
70.22	70.22.0	Consulenza imprenditoriale e altra consulenza amministrativo-gestionale e pianificazione aziendale	
71.11	71.11.0	Attività degli studi di architettura	Business advice and other management consulting and business planning Activities of architectural
71.12	71.12.1	Attività degli studi di ingegneria	
71.12	71.12.2	Servizi di progettazione di ingegneria integrata	Activities of engineering studies Integrated engineering design services
71.12	71.12.3	Attività tecniche svolte da geometri	
71.12	71.12.4	Attività di cartografia e aerofotogrammetria	Technical activities carried out by surveyors Activities on mapping and aerial photography
71.12	71.12.5	Attività di studio geologico e di prospezione geognostica e mineraria	
71.20	71.20.1	Collaudi ed analisi tecniche di prodotti	Activities of geological prospecting and geological and mining Technical testing and analysis of products
71.20	71.20.2	Controllo di qualità e certificazione di prodotti, processi e sistemi	
72.11	72.11.0	Ricerca e sviluppo sperimentale nel campo delle biotecnologie	Quality control and certification of products , processes and systems Research and experimental development on biotechnology
72.19	72.19.0	Altre attività di ricerca e sviluppo sperimentale nel campo delle scienze naturali e dell'ingegneria	
72.20	72.20.0	Ricerca e sviluppo sperimentale nel campo delle scienze sociali e umanistiche	Other research and experimental development on natural sciences and engineering Research and experimental development on social sciences and humanities
73.11	73.11.0	Agenzie pubblicitarie	

73.12	73.12.0	Attività delle concessionarie e degli altri intermediari di servizi pubblicitari	Activities of dealers and other intermediaries of advertising services
73.20	73.20.0	Ricerche di mercato e sondaggi di opinione	Market research and public opinion polling
74.10	74.10.1	Attività di design di moda e design industriale	Activities of fashion design and industrial design
74.10	74.10.2	Attività dei disegnatori grafici	Activities of graphic designers
74.10	74.10.3	Attività dei disegnatori tecnici	Activities of the drafters
74.10	74.10.9	Altre attività di design	Other design activities
74.20	74.20.1	Attività di riprese fotografiche	Activities of photographic
74.20	74.20.2	Laboratori fotografici per lo sviluppo e la stampa	Photographic laboratories for the development and printing
74.30	74.30.0	Traduzione e interpretariato	Translation and interpretation
75.00	75.00.0	Servizi veterinari	veterinary Services
77.11	77.11.0	Noleggio di autovetture ed autoveicoli leggeri	Hire of passenger cars and light motor vehicles
77.12	77.12.0	Noleggio di autocarri e di altri veicoli pesanti	Rental trucks and other heavy vehicles
77.21	77.21.0	Noleggio di attrezzature sportive e ricreative	Rental of sports and leisure facilities
77.22	77.22.0	Noleggio di videocassette, Cd, Dvd e dischi contenenti audiovisivi o videogame	Renting of video tapes , CDs, DVDs and discs containing audio or video games
77.29	77.29.1	Noleggio di biancheria da tavola, da letto, da bagno e di articoli di vestiario	Rental of table linen , bed linen , towels and items of clothing
77.29	77.29.9	Noleggio di altri beni per uso personale e domestico nec (escluse le attrezzature sportive e ricreative)	Renting of other personal and household goods nec (excluding sports and recreational facilities)
77.31	77.31.0	Noleggio di macchine e attrezzature agricole	Renting of agricultural machinery and equipment
77.32	77.32.0	Noleggio di macchine e attrezzature per lavori edili e di genio civile	Renting of machinery and equipment for construction and civil engineering
77.33	77.33.0	Noleggio di macchine e attrezzature per ufficio (inclusi i computer)	Rental of machinery and equipment (including computers)
77.34	77.34.0	Noleggio di mezzi di trasporto marittimo e fluviale	Hiring of means of transport and waterway transport

77.35	77.35.0	Noleggio di mezzi di trasporto aereo	Renting of air transport equipment
77.39	77.39.1	Noleggio di altri mezzi di trasporto terrestri	Renting of other land transport equipment
77.39	77.39.9	Noleggio di altre macchine e attrezzature	Renting of other machinery and equipment
77.40	77.40.0	Concessione dei diritti di sfruttamento di proprietà intellettuale e prodotti simili (escluse le opere protette dal copyright)	Granting rights to use intellectual property and similar products (except copyrighted works)
78.10	78.10.0	Servizi di ricerca, selezione, collocamento e supporto per il ricollocamento di personale	Research services , selection, placement and support for the relocation of staff
78.20	78.20.0	Attività delle agenzie di fornitura di lavoro temporaneo (interinale)	Agency activities of temporary work agencies (agencies)
78.30	78.30.0	Altre attività di fornitura e gestione di risorse umane (staff leasing)	Other activities of provision and management of human resources (staff leasing)
79.11	79.11.0	Attività delle agenzie di viaggio	Activities of travel agencies
79.12	79.12.0	Attività dei tour operator	Tour operator activities
80.10	80.10.0	Servizi di vigilanza privata	Private security
80.20	80.20.0	Servizi connessi ai sistemi di vigilanza	Related services Security systems
80.30	80.30.0	Servizi di investigazione privata	Private investigation services
81.10	81.10.0	Servizi integrati di gestione agli edifici	Integrated management services for buildings
81.21	81.21.0	Pulizia generale (non specializzata) di edifici	General cleaning (non- specialized) of buildings
81.22	81.22.0	Attività di pulizia specializzata di edifici e di impianti e macchinari industriali	Specialized cleaning activities for buildings and industrial plants and machinery
81.29	81.29.1	Servizi di disinfezione	Sanitation
81.29	81.29.9	Attività di pulizia nca	Cleaning activities nec
81.30	81.30.0	Cura e manutenzione del paesaggio (inclusi parchi, giardini e aiuole)	Care and maintenance of the landscape (including parks, gardens and flower beds)

82.11	82.11.0	Servizi integrati di supporto per le funzioni d'ufficio; uffici-residence	Integrated services support , office , office -residence
82.19	82.19.0	Servizi di fotocopiatura, preparazione di documenti e altre attività di supporto specializzate per le funzioni d'ufficio	Photocopying services , document preparation and other specialized support activities , office
82.20	82.20.0	Attività dei call center	Activities of call centers
82.30	82.30.0	Organizzazione di convegni e fiere	Organisation of conventions and trade shows
84.11	84.11.1	Attività degli organi legislativi ed esecutivi, centrali e locali; amministrazione finanziaria; amministrazioni regionali, provinciali e comunali	Activities of the legislative and executive bodies , central and local government, financial administration , regional, provincial and municipal
84.11	84.11.2	Attività di pianificazione generale e servizi statistici generali	Activities of overall planning and statistical services in general
84.12	84.12.1	Regolamentazione dell'attività degli organismi preposti alla sanità	Regulation of the activities of agencies that provide health care
84.12	84.12.2	Regolamentazione dell'attività degli organismi preposti all'istruzione	Rules governing bodies in charge of education
84.12	84.12.3	Regolamentazione dell'attività degli organismi preposti alla gestione di progetti per l'edilizia abitativa e l'assetto del territorio e per la tutela dell'ambiente	Regulation of the activities of agencies that provide project management for housing and land use planning and environmental protection
84.12	84.12.4	Regolamentazione dell'attività degli organismi preposti ai servizi ricreativi, culturali e sociali vari	Regulation of the bodies responsible for recreational, cultural and social variety
84.13	84.13.1	Regolamentazione degli affari concernenti i combustibili e l'energia	Regulatory affairs concerning fuels and energy
84.13	84.13.2	Regolamentazione degli affari e servizi concernenti l'agricoltura, silvicolture, caccia e pesca	Regulation of business and services relating to agriculture , forestry , hunting and fishing
84.13	84.13.3	Regolamentazione degli affari e dei servizi concernenti le industrie estrattive e le risorse minerarie (eccetto i combustibili) le industrie manifatturiere, le costruzioni e le opere pubbliche ad eccezione delle strade e opere per la navigazione	Regulatory affairs and services concerning the extractive industries and mineral resources (except fuels) , manufacturing industries , construction and public works, with the exception of roads and works for navigation
84.13	84.13.4	Regolamentazione degli affari e servizi concernenti la costruzione di strade	Regulatory affairs and services concerning the construction of roads
84.13	84.13.5	Regolamentazione degli affari e servizi concernenti la costruzione di opere per la navigazione interna e marittima	Regulatory affairs and services concerning the construction of works for the inland and maritime navigation
84.13	84.13.6	Regolamentazione degli affari e servizi concernenti i trasporti e le comunicazioni	Regulatory affairs and services relating to the transport and communications
84.13	84.13.7	Regolamentazione degli affari e servizi concernenti il commercio interno	Regulatory affairs and services concerning domestic trade

	84.13.8	Regolamentazione degli affari e servizi concernenti il turismo	Regulatory affairs and services concerning tourism
84.13	84.13.9	Regolamentazione di altri affari e servizi economici	Regulation of other business and economic services
84.21	84.21.0	Affari esteri	foreign Affairs
84.22	84.22.0	Difesa nazionale	national Defence
84.23	84.23.0	Giustizia ed attività giudiziarie	Justice and judicial activities
84.24	84.24.0	Ordine pubblico e sicurezza nazionale	Public order and national security
84.25	84.25.1	Attività dei vigili del fuoco	Activities of firefighters
84.25	84.25.2	Attività di protezione civile	Civil protection activities
84.30	84.30.0	Assicurazione sociale obbligatoria	Compulsory social security
85.10	85.10.0	Istruzione di grado preparatorio: scuole dell'infanzia, scuole speciali collegate a quelle primarie	Education of preparatory degree : nursery schools , special schools related to those primary
85.20	85.20.0	Istruzione primaria: scuole elementari	Primary education : elementary schools
85.31	85.31.1	Istruzione secondaria di primo grado: scuole medie	Secondary level education : high school
85.31	85.31.2	Istruzione secondaria di secondo grado di formazione generale: licei	Education secondary schools of general education : high school
85.32	85.32.0	Istruzione secondaria di secondo grado di formazione tecnica, professionale e artistica (istituti tecnici, professionali, artistici eccetera)	Education secondary level technical training , professional and artistic (technical institutes, professional , artistic , etc.)
85.41	85.41.0	Istruzione e formazione tecnica superiore (IFTS)	Education and training (IFTS)
85.42	85.42.0	Istruzione universitaria e post-universitaria; accademie e conservatori	College and post -graduate education , academies and conservatories
85.51	85.51.0	Corsi sportivi e ricreativi	Sports and recreation
85.52	85.52.0	Formazione culturale	cultural education
85.53	85.53.0	Autoscuole, scuole di pilotaggio e nautiche	Driving schools , driving schools and nautical
85.59	85.59.1	Università popolare	People's University

	85.59.2	Corsi di formazione e corsi di aggiornamento professionale	Training and refresher courses
85.59	85.59.3	Scuole e corsi di lingua	Schools and language courses
85.59	85.59.9	Altri servizi di istruzione nca	Other education nec
86.10	86.10.1	Ospedali e case di cura generici	Hospitals and nursing homes generic
86.10	86.10.2	Ospedali e case di cura specialistici	Hospitals and nursing homes specialist
86.10	86.10.3	Istituti, cliniche e policlinici universitari	Institutes , clinics and university hospitals
86.10	86.10.4	Ospedali e case di cura per lunga degenza	Hospitals and nursing homes for long-term care
86.21	86.21.0	Servizi degli studi medici di medicina generale	Medical practice general medicine
86.22	86.22.0	Studi medici specialistici e poliambulatori	Medical specialists and polyclinics
86.23	86.23.0	Attività degli studi odontoiatrici	Dental practice activities
87.10	87.10.0	Strutture di assistenza infermieristica residenziale per anziani	Residential nursing care facilities for the elderly
87.20	87.20.0	Strutture di assistenza residenziale per persone affette da ritardi mentali, disturbi mentali o che abusano di sostanze stupefacenti	Residential care facilities for persons with mental retardation, mental illness or substance misusing
87.30	87.30.0	Strutture di assistenza residenziale per anziani e disabili	Residential care facilities for elderly and disabled
88.10	88.10.0	Assistenza sociale non residenziale per anziani e disabili	Social work activities without accommodation for the elderly and disabled
90.01	90.01.0	Rappresentazioni artistiche	Performing arts
90.02	90.02.0	Attività di supporto alle rappresentazioni artistiche	Support activities to performing arts
90.03	90.03.0	Creazioni artistiche e letterarie	And creative literary
90.04	90.04.0	Gestione di teatri, sale da concerto e altre strutture artistiche	Management of theaters , concert halls and other arts facilities
91.01	91.01.0	Attività di biblioteche ed archivi	Libraries and archives
91.02	91.02.0	Attività di musei	Activities of museums
91.03	91.03.0	Gestione di luoghi e monumenti storici e attrazioni simili	Operation of historical sites and buildings and similar attractions
91.04	91.04.0	Attività degli orti botanici, dei giardini zoologici e delle riserve	Activities of botanical gardens and zoological gardens and nature reserves

	naturali	
92.00	92.00.0 Attività riguardanti le lotterie, le scommesse, le case da gioco	Activities concerning lotteries, betting, casinos
93.11	93.11.1 Gestione di stadi	Management of stages
93.11	93.11.2 Gestione di piscine	Management of pools
93.11	93.11.3 Gestione di impianti sportivi polivalenti	Operation of sports facilities multipurpose
93.11	93.11.9 Gestione di altri impianti sportivi nca	Management of other sports facilities nec
93.12	93.12.0 Attività di club sportivi	Activities of sport clubs
93.13	93.13.0 Gestione di palestre	Management of gyms
93.19	93.19.1 Enti e organizzazioni sportive, promozione di eventi sportivi	Institutions and sports organizations , promotion of sporting events
93.19	93.19.9 Attività sportive nca	Sports activities nec
93.21	93.21.0 Parchi di divertimento e parchi tematici	Amusement parks and theme parks
93.29	93.29.1 Discoteche, sale da ballo night-club e simili	Nightclubs , dance halls and nightclubs similar
93.29	93.29.2 Gestione di stabilimenti balneari: marittimi, lacuali e fluviali	Management of bathing establishments : maritime and waterway structures
93.29	93.29.3 Sale giochi e biliardi	Arcades and billiards
93.29	93.29.9 Altre attività di intrattenimento e di divertimento nca	Other amusement and recreation activities nec
94.11	94.11.0 Attività di organizzazione di datori di lavoro, federazioni di industria, commercio, artigianato e servizi, associazioni, unioni, federazioni fra istituzioni	Activities of organization of employers, federations of industry , trade, crafts and services , associations, unions , federations between institutions
94.12	94.12.1 Attività di federazioni e consigli di ordini e collegi professionali	Activities of federations and professional associations and boards advice
94.12	94.12.2 Attività di associazioni professionali	Activities of professional associations
94.20	94.20.0 Attività dei sindacati di lavoratori dipendenti	Activities of trade unions
95.11	95.11.0 Riparazione e manutenzione di computer e periferiche	Repair and maintenance of computers and peripherals
95.12	95.12.0 Riparazione e manutenzione di apparecchiature per le comunicazioni	Repair and maintenance of communications equipment
95.21	95.21.0 Riparazione di prodotti elettronici di consumo audio e video	Repair of consumer electronics audio and video
95.22	95.22.0 Riparazione di elettrodomestici e	Repair of household appliances and home and garden equipment

		di articoli per la casa e il giardino	
95.23	95.23.0	Riparazione di calzature e articoli da viaggio in pelle, cuoio o in altri materiali simili	Repair of footwear and leather luggage , leather or other similar materials
95.24	95.24.0	Riparazione di mobili e di oggetti di arredamento; laboratori di tappezzeria	Repair of furniture and home furnishings , upholstery workshops
95.25	95.25.0	Riparazione di orologi e di gioielli	Repair of watches, clocks and jewelry
95.29	95.29.0	Riparazione di altri beni per uso personale e per la casa	Repair of other personal and household goods for the home
96.01	96.01.1	Attività delle lavanderie industriali	Activities of the industrial laundries
96.01	96.01.2	Altre lavanderie, tintorie	Other laundries, dry cleaners
96.02	96.02.0	Servizi degli acconciatori, manicure, pedicure e trattamenti estetici	Services of hairdressers , manicure, pedicure and beauty treatments
96.03	96.03.0	Servizi di pompe funebri e attività connesse	Funeral and related activities
96.04	96.04.1	Servizi di centri per il benessere fisico (esclusi gli stabilimenti termali)	Service centers for the physical well-being (excluding spas)
96.04	96.04.2	Stabilimenti termali	spas
96.09	96.09.0	Attività di servizi per la persona nca	Activities of personal services nec
97.00	97.00.0	Attività di famiglie e convivenze come datori di lavoro per personale domestico	Activities of households as employers of domestic personnel
98.10	98.10.0	Produzione di beni indifferenziati per uso proprio da parte di famiglie e convivenze	Undifferentiated goods-producing for their own use by households
98.20	98.20.0	Produzione di servizi indifferenziati per uso proprio da parte di famiglie e convivenze	Undifferentiated production of services for own use by households
99.00	99.00.0	Organizzazioni ed organismi extraterritoriali	Extraterritorial organizations and bodies
25.61	25.61.0	Trattamento e rivestimento dei metalli	Treatment and coating of metals
25.62	25.62.0	Lavori di meccanica generale	General mechanical engineering
25.71	25.71.0	Fabbricazione di articoli di coltelleria, posateria ed armi	Manufacture of cutlery , cutlery and weapons

		bianche	
25.72	25.72.0	Fabbricazione di serrature e cerniere e ferramenta simili	Manufacture of locks and hinges and hardware similar
25.73	25.73.1	Fabbricazione di utensileria ad azionamento manuale; parti intercambiabili per macchine utensili	Manufacture of tools manually operated interchangeable parts for machine tools
25.73	25.73.2	Fabbricazione di stampi, portastampi, sagome, forme per macchine	Manufacture of molds, mold holders, templates, forms for machines
25.91	25.91.0	Fabbricazione di bidoni in acciaio e contenitori analoghi per il trasporto e l'imballaggio	Manufacture of steel drums and similar containers for the transport and packaging
25.92	25.92.0	Fabbricazione di imballaggi leggeri in metallo	Manufacture of light metal packaging
25.93	25.93.1	Fabbricazione di prodotti fabbricati con fili metallici	Manufacture of products made of metal wires
25.93	25.93.2	Fabbricazione di molle	Spring Manufacturing
25.93	25.93.3	Fabbricazione di catene fucinate senza saldatura e stampate	Manufacture of seamless forged chains and printed
25.94	25.94.0	Fabbricazione di articoli di bulloneria	Manufacture of fasteners and screw
25.99	25.99.1	Fabbricazione di stoviglie, pentolame, vasellame, attrezzi da cucina e accessori casalinghi non elettrici, articoli metallici per l'arredamento di stanze da bagno	Manufacture of cutlery, cookware , tableware , kitchenware and home accessories , non-electric metal items for the furnishing of bathrooms
25.99	25.99.2	Fabbricazione di casseforti, forzieri e porte metalliche blindate	Manufacture of safes, vaults and armored metal doors
25.99	25.99.3	Fabbricazione di oggetti in ferro, in rame ed altri metalli	Manufacture of objects in iron , copper and other metals
25.99	25.99.9	Fabbricazione di altri articoli metallici e minuteria metallica	Manufacture of other fabricated metal items and small metal
26.60	26.60.0	Fabbricazione di strumenti per irradiazione, apparecchiature elettromedicali ed elettroterapeutiche	Manufacture of irradiation , electromedical and electrotherapeutic equipment
26.70	26.70.1	Fabbricazione di elementi ottici e strumenti ottici di misura, controllo e precisione	Manufacture of optical elements and optical instruments for measurement, control and accuracy
26.70	26.70.2	Fabbricazione di apparecchiature fotografiche e cinematografiche	Manufacture of photographic and cinematographic equipment
26.80	26.80.0	Fabbricazione di supporti magnetici ed ottici	Manufacture of magnetic and optical media
27.90	27.90.0	Fabbricazione di altre apparecchiature elettriche	Manufacture of other electrical equipment
28.91	28.91.0	Fabbricazione di macchine per la metallurgia (incluse parti e	Manufacture of machinery for metallurgy (including parts and accessories)

		accessori)	
28.92	28.92.0	Fabbricazione di macchine da miniera, cava e cantiere (incluse parti e accessori)	Manufacture of machinery for mining , quarrying and construction (including parts and accessories)
28.93	28.93.0	Fabbricazione di macchine per l'industria alimentare, delle bevande e del tabacco (incluse parti e accessori)	Manufacture of machinery for food, beverage and tobacco (including parts and accessories)
28.94	28.94.1	Fabbricazione di macchine tessili, di macchine e di impianti per il trattamento ausiliario dei tessili, di macchine per cucire e per maglieria (incluse parti e accessori)	Manufacture of textile machinery, machines and plants for the auxiliary treatment of textiles, sewing machines and knitting machines (including parts and accessories)
	28.94.2	Fabbricazione di macchine e apparecchi per l'industria delle pelli, del cuoio e delle calzature (incluse parti e accessori)	Manufacture of machinery and equipment for the leather industry , leather and footwear (including parts and accessories)
28.94	28.94.3	Fabbricazione di apparecchiature e di macchine per lavanderie e stirerie (incluse parti e accessori)	Manufacture of machinery and equipment for laundry and ironing (including parts and accessories)
28.95	28.95.0	Fabbricazione di macchine per l'industria della carta e del cartone (incluse parti e accessori)	Manufacture of machinery for paper and paperboard (including parts and accessories)
28.96	28.96.0	Fabbricazione di macchine per l'industria delle materie plastiche e della gomma (incluse parti e accessori)	Manufacture of machinery for the plastics and rubber industries (including parts and accessories)
28.99	28.99.1	Fabbricazione di macchine per la stampa e la legatoria (incluse parti e accessori)	Manufacture of machinery for the printing and binding (including parts and accessories)
	28.99.2	Fabbricazione di robot industriali per usi molteplici (incluse parti e accessori)	Manufacture of industrial robots for multiple uses (including parts and accessories)
28.99	28.99.3	Fabbricazione di apparecchi per istituti di bellezza e centri di benessere	Manufacture of equipment for beauty salons and wellness centers
	28.99.9	Fabbricazione di altre macchine per impieghi speciali nca (incluse parti e accessori)	Manufacture of other special purpose machinery nec (including parts and accessories)
30.91	30.91.1	Fabbricazione di motocicli e motoveicoli (inclusi i motori)	Manufacture of motorcycles and motor vehicles (including motor spirit)
	30.91.2	Fabbricazione di accessori e pezzi staccati per motocicli e ciclomotori	Manufacture of accessories and spare parts for motorcycles and mopeds
30.92	30.92.1	Fabbricazione e montaggio di biciclette	Manufacture and assembly of bicycles
	30.92.2	Fabbricazione di parti ed accessori per biciclette	Manufacture of parts and accessories for bicycles
30.92	30.92.3	Fabbricazione di veicoli per invalidi (incluse parti e accessori)	Manufacture of invalid carriages (including parts and accessories)
	30.92.4	Fabbricazione di carrozzine e passeggini per neonati	Manufacture of baby prams and strollers

	30.99	30.99.0	Fabbricazione di veicoli a trazione manuale o animale	Manufacture of manual or animal -drawn vehicles
32.91		32.91.0	Fabbricazione di scope e spazzole	Manufacture of brooms and brushes
32.99		32.99.1	Fabbricazione di attrezzi ed articoli di vestiario protettivi di sicurezza	Manufacture of articles of clothing and protective safety
32.99		32.99.2	Fabbricazione di ombrelli, bottoni, chiusure lampo, parrucche e affini	Manufacture of umbrellas, buttons, zippers , wigs and related
32.99		32.99.3	Fabbricazione di oggetti di cancelleria	Manufacture of stationery items
32.99		32.99.4	Fabbricazione di casse funebri	Manufacture of coffins
32.99		32.99.9	Fabbricazione di altri articoli nca	Manufacture of other articles nec
42.91		42.91.0	Costruzione di opere idrauliche	Construction of water projects
42.99		42.99.0	Costruzione di altre opere di ingegneria civile nca	Construction of other civil engineering projects nec
43.91		43.91.0	Realizzazione di coperture	Construction of roofs
43.99		43.99.0	Altri lavori specializzati di costruzione nca	Other specialized construction activities nec
46.61		46.61.0	Commercio all'ingrosso di macchine, accessori e utensili agricoli, inclusi i trattori	Wholesale of machinery, accessories and agricultural tools , including tractors
46.62		46.62.0	Commercio all'ingrosso di macchine utensili (incluse le relative parti intercambiabili)	Wholesale of machine tools (including their parts interchangeable)
46.63		46.63.0	Commercio all'ingrosso di macchine per le miniere, l'edilizia e l'ingegneria civile	Wholesale of machinery for mining, construction and civil engineering
46.64		46.64.0	Commercio all'ingrosso di macchine per l'industria tessile, di macchine per cucire e per maglieria	Wholesale of machinery for the textile industry and of sewing and knitting machines
46.65		46.65.0	Commercio all'ingrosso di mobili per ufficio e negozi	Wholesale of office furniture and stores
46.66		46.66.0	Commercio all'ingrosso di altre macchine e attrezzature per ufficio	Wholesale of other machinery and equipment , office
46.69		46.69.1	Commercio all'ingrosso di mezzi ed attrezzature di trasporto	Wholesale of vehicles and transport equipment
		46.69.2	Commercio all'ingrosso di materiale elettrico per impianti di uso industriale	Wholesale of electrical systems for industrial use
		46.69.3	Commercio all'ingrosso di apparecchiature per parrucchieri, palestre, solarium e centri estetici	Wholesale of equipment for hairdressers , gym , solarium and beauty centers

	46.69.9	Commercio all'ingrosso di altre macchine e attrezature per l'industria, il commercio e la navigazione	Wholesale of other machinery and equipment for industry , trade and navigation
46.69			
	46.71.0	Commercio all'ingrosso di prodotti petroliferi e lubrificanti per autotrazione, di combustibili per riscaldamento	Wholesale of petroleum products and automotive lubricants , fuels for heating
46.71			
	46.72.1	Commercio all'ingrosso di minerali metalliferi, di metalli ferrosi e prodotti semilavorati	Wholesale of metal ores, ferrous metals and semi-finished products
46.72			
46.72	46.72.2	Commercio all'ingrosso di metalli non ferrosi e prodotti semilavorati	Wholesale of non-ferrous metals and semi-finished products
46.73			
	46.73.1	Commercio all'ingrosso di legname, semilavorati in legno e legno artificiale	Wholesale of wood , semi-finished wood and artificial wood
46.73			
	46.73.2	Commercio all'ingrosso di materiali da costruzione (inclusi gli apparecchi igienico-sanitari)	Wholesale of construction materials (including sanitary equipment)
46.73			
46.73	46.73.3	Commercio all'ingrosso di vetro piano	Wholesale of flat glass
46.73			
	46.73.4	Commercio all'ingrosso di carta da parati, colori e vernici	Wholesale of wallpaper, paint and varnish
46.73			
46.74			
	46.74.1	Commercio all'ingrosso di articoli in ferro e in altri metalli (ferramenta)	Wholesale of iron and other metals (hardware)
46.74			
	46.74.2	Commercio all'ingrosso di apparecchi e accessori per impianti idraulici, di riscaldamento e di condizionamento	Wholesale of equipment and accessories for plumbing, heating and air conditioning
46.74			
46.75			
	46.75.0	Commercio all'ingrosso di prodotti chimici	Wholesale of chemical products
46.75			
46.76			
	46.76.1	Commercio all'ingrosso di fibre tessili gregge e semilavorate	Wholesale of textile flock and semi-
46.76			
	46.76.2	Commercio all'ingrosso di gomma greggia, materie plastiche in forme primarie e semilavorati	Wholesale of untreated rubber , plastics in primary forms and semi-finished
46.76			
46.76	46.76.3	Commercio all'ingrosso di imballaggi	Wholesale of packaging
46.76			
	46.76.9	Commercio all'ingrosso di altri prodotti intermedi nca	Wholesale of other intermediate products nec
46.76			
46.77			
	46.77.1	Commercio all'ingrosso di rottami e sottoprodotti della lavorazione industriale metallici	Wholesale of waste and by-products of industrial processing metal
46.77			
	46.77.2	Commercio all'ingrosso di altri materiali di recupero non metallici (vetro, carta, cartoni eccetera); sottoprodotti non metallici della lavorazione industriale (cascami)	Wholesale of other non-metallic recycled materials (glass, paper , cartons , etc.) , non-metallic by-products of industrial processing (waste)
46.77			
46.90			
	46.90.0	Commercio all'ingrosso non specializzato	Non-specialized wholesale
46.90			
47.61			
	47.61.0	Commercio al dettaglio di libri nuovi in esercizi specializzati	Retail sale of new books in specialized stores

47.62	47.62.1	Commercio al dettaglio di giornali, riviste e periodici	Retail sale of newspapers, magazines and periodicals
47.62	47.62.2	Commercio al dettaglio di articoli di cartoleria e forniture per ufficio	Retail sale of stationery and office supplies
47.63	47.63.0	Commercio al dettaglio di registrazioni musicali e video in esercizi specializzati	Retail sale of music and video recordings in specialized stores
47.64	47.64.1	Commercio al dettaglio di articoli sportivi, biciclette e articoli per il tempo libero	Retail sale of sports goods , bicycles and leisure articles
47.64	47.64.2	Commercio al dettaglio di natanti e accessori	Retail sale of boats and accessories
47.65	47.65.0	Commercio al dettaglio di giochi e giocattoli (inclusi quelli elettronici)	Retail sale of games and toys (including electronic)
47.71	47.71.1	Commercio al dettaglio di confezioni per adulti	Retail packs for adults
47.71	47.71.2	Commercio al dettaglio di confezioni per bambini e neonati	Retail packs for children and infants
47.71	47.71.3	Commercio al dettaglio di biancheria personale, maglieria, camicie	Retail sale of underwear , knitwear, shirts
47.71	47.71.4	Commercio al dettaglio di pellicce e di abbigliamento in pelle	Retail sale of fur and leather clothing
47.71	47.71.5	Commercio al dettaglio di cappelli, ombrelli, guanti e cravatte	Retail sale of hats, umbrellas , gloves and ties
47.72	47.72.1	Commercio al dettaglio di calzature e accessori	Retail sale of footwear and accessories
47.72	47.72.2	Commercio al dettaglio di articoli di pelletteria e da viaggio	Retail sale of leather goods and travel goods
47.73	47.73.1	Farmacie	Pharmacies
47.73	47.73.2	Commercio al dettaglio in altri esercizi specializzati di medicinali non soggetti a prescrizione medica	Retail sale in specialized stores of other medicinal products not subject to medical prescription
47.74	47.74.0	Commercio al dettaglio di articoli medicali e ortopedici in esercizi specializzati	Retail sale of medical and orthopedic goods in specialized stores
47.75	47.75.1	Commercio al dettaglio di articoli di profumeria, prodotti per toilette e per l'igiene personale	Retail sale of articles of perfumery, toiletries and personal hygiene
47.75	47.75.2	Erboristerie	herbalists
47.76	47.76.1	Commercio al dettaglio di fiori e piante	Retail sale of flowers and plants
47.76	47.76.2	Commercio al dettaglio di piccoli animali domestici	Retail sale of small pets
47.77	47.77.0	Commercio al dettaglio di orologi, articoli di gioielleria e argenteria	Retail sale of watches, jewelery and silverware

47.78	47.78.1	Commercio al dettaglio di mobili per ufficio	Retail sale of office furniture
47.78	47.78.2	Commercio al dettaglio di materiale per ottica e fotografia	Retail sale of material for optics and photography
47.78	47.78.3	Commercio al dettaglio di oggetti d'arte di culto e di decorazione, chincaglieria e bigiotteria	Retail sale of art objects of worship and decoration , trinkets and jewelery
47.78	47.78.4	Commercio al dettaglio di combustibile per uso domestico e per riscaldamento	Retail sale of fuel for domestic use and for heating
47.78	47.78.5	Commercio al dettaglio di armi e munizioni, articoli militari	Retail sale of weapons and ammunition, military
47.78	47.78.6	Commercio al dettaglio di saponi, detergivi, prodotti per la lucidatura e affini	Retail sale of soaps, detergents, and related products for polishing
47.78	47.78.9	Commercio al dettaglio di altri prodotti non alimentari	Retail sale of other non-food products
47.79	47.79.1	Commercio al dettaglio di libri di seconda mano	Retail sale of second-hand books
47.79	47.79.2	Commercio al dettaglio di mobili usati e oggetti di antiquariato	Retail sale of used furniture and antiques
47.79	47.79.3	Commercio al dettaglio di indumenti e altri oggetti usati	Retail sale of clothing and other items used
47.79	47.79.4	Case d'asta al dettaglio (escluse aste via internet)	Auction houses retail (excluding auction via internet)
47.81	47.81.0	Commercio al dettaglio ambulante di prodotti alimentari e bevande	Retail itinerant food and drinks
47.82	47.82.0	Commercio al dettaglio ambulante di prodotti tessili, abbigliamento, calzature e pelletterie	Walking Retail of textiles, clothing, footwear and leather goods
47.89	47.89.0	Commercio al dettaglio ambulante di altri prodotti	Retail walking of other products
47.91	47.91.1	Commercio al dettaglio di qualsiasi tipo di prodotto effettuato via internet	Retail sale of any product made via internet
47.91	47.91.2	Commercio al dettaglio di qualsiasi tipo di prodotto effettuato per televisione	Retail sale of any product made for television
47.91	47.91.3	Commercio al dettaglio di qualsiasi tipo di prodotto per corrispondenza, radio, telefono	Retail sale of any kind of product by mail order , radio, telephone
47.99	47.99.1	Commercio al dettaglio di prodotti vari, mediante l'intervento di un dimostratore o di un incaricato alla vendita (porta a porta)	Retail sale of various products , through the intervention of a demonstrator or a designated person for sale (door to door)
47.99	47.99.2	Commercio effettuato per mezzo di distributori automatici	Commerce carried out by means of vending machines
55.90	55.90.1	Gestione di vagoni letto	Management of sleeper
55.90	55.90.2	Alloggi per studenti e lavoratori con servizi accessori di tipo alberghiero	Accommodations for students and workers with ancillary services of a hotel
61.90	61.90.1	Erogazione di servizi di accesso ad internet (ISP)	Provision of access to the Internet (ISP)

	61.90.2	Posto telefonico pubblico ed Internet Point	Public telephone services and Internet Point
61.90	61.90.9	Altre attività connesse alle telecomunicazioni	Other activities related to telecommunications
63.91	63.91.0	Attività delle agenzie di stampa	Activities of news agencies
63.99	63.99.0	Altre attività dei servizi di informazione nca	Other information service activities nec
64.91	64.91.0	Leasing finanziario	finance leases
64.92	64.92.0	Altre attività creditizie	Other credit
64.99	64.99.1	Attività di intermediazione mobiliare	Stockbroking activities
64.99	64.99.2	Attività di factoring	Factoring activities
64.99	64.99.3	Attività di merchant bank	Activities of merchant banks
64.99	64.99.4	Attività delle società veicolo	Activities of company vehicle
64.99	64.99.5	Attività di intermediazione in cambi	Activities of foreign exchange trading
64.99	64.99.6	Altre intermediazioni finanziarie nca	Other financial intermediation nec
74.90	74.90.1	Consulenza agraria	agricultural advisory
	74.90.2	Consulenza in materia di sicurezza	
74.90	74.90.9	Altre attività di assistenza e consulenza professionale, scientifica e tecnica nca	Consulting in the field of security
74.90			Other assistance and professional advice , scientific and technical activities nec
79.90	79.90.1	Altri servizi di prenotazione e altre attività di assistenza turistica non svolte dalle agenzie di viaggio	Other reservation service and other tourist assistance activities not carried out by travel agencies
79.90	79.90.2	Attività delle guide e degli accompagnatori turistici	Activities of guides and tour operators
82.91	82.91.1	Attività di agenzie di recupero crediti	Activities of collection agencies and credit
82.91	82.91.2	Agenzie di informazioni commerciali	Reporting agencies
82.92	82.92.1	Imballaggio e confezionamento di generi alimentari	Packing and packaging of foodstuffs
82.92	82.92.2	Imballaggio e confezionamento di generi non alimentari	Packing and packaging of non-food items
82.99	82.99.1	Imprese di gestione esattoriale	Enterprise management tax collection
82.99	82.99.2	Agenzie di distribuzione di libri, giornali e riviste	Agencies distribution of books, newspapers and magazines
82.99	82.99.3	Servizi di gestione di pubblici mercati e pesce pubbliche	Services management of public markets and public weighbridges
82.99	82.99.4	Richiesta certificati e disbrigo pratiche	Request certificates and document procedures
82.99	82.99.9	Altri servizi di sostegno alle imprese	Services in support of business

85.60	85.60.0	Attività di supporto all'istruzione	Education support activities
86.90	86.90.1	Laboratori di analisi cliniche, laboratori radiografici ed altri centri di diagnostica per immagini	Clinical laboratories , X-ray laboratories and other diagnostic imaging centers
86.90	86.90.2	Attività paramediche indipendenti	Independent paramedical activities
86.90	86.90.3	Attività svolta da psicologi	Activities carried out by psychologists
86.90	86.90.4	Servizi di ambulanza, delle banche del sangue, degli ambulatori tricologici e altri servizi sanitari nca	Ambulance services , blood banks , clinics and other health services nec Haircare
87.90	87.90.0	Altre strutture di assistenza sociale residenziale	Other residential care facilities Social
88.91	88.91.0	Servizi di asili nido; assistenza diurna per minori disabili	Day care services , day care for children with disabilities
88.99	88.99.0	Altre attività di assistenza sociale non residenziale nca	Other social work activities without accommodation nec
94.91	94.91.0	Attività delle organizzazioni religiose nell'esercizio del culto	Activities of religious organizations in the exercise of worship
94.92	94.92.0	Attività dei partiti e delle associazioni politiche	Activities of political parties and political associations
94.99	94.99.1	Attività di organizzazioni per la tutela degli interessi e dei diritti dei cittadini	Activities of membership organizations for the protection of the interests and rights of citizens
94.99	94.99.2	Attività di organizzazioni che perseguono fini culturali, ricreativi e la coltivazione di hobby	Activities of organizations which pursue cultural, recreational and growing hobby
94.99	94.99.3	Attività di organizzazioni patriottiche e associazioni combattentistiche	Activities of patriotic organizations and veterans associations
94.99	94.99.4	Attività di organizzazioni per la cooperazione e la solidarietà internazionale	Activities of membership organizations for cooperation and international solidarity
94.99	94.99.5	Attività di organizzazioni per la filantropia	Activities of membership organizations for philanthropy
94.99	94.99.6	Attività di organizzazioni per la promozione e la difesa degli animali e dell'ambiente	Activities of membership organizations for the promotion and protection of animals and the environment
94.99	94.99.9	Attività di altre organizzazioni associative nca	Activities of other membership organizations nec

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