

## THE NEW ITALIAN CLASSIFICATION OF ECONOMIC ACTIVITIES ATECO 2025: A FOCUS ON INDIVIDUAL ENTREPRENEURS

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**Abstract.** During the recent review of the Italian classification of economic activities — that led to the release of Ateco 2025 — discussions with stakeholders highlighted concerns regarding the clarity of the classification when it comes to describing the activities of individual entrepreneurs. Individual entrepreneurs often find that the contents of Ateco 2025 do not reflect their activities because of the difficulty of separating the concept of ‘what one is’ (status) from ‘what one does’. Drawing on descriptive examples based on user inquiries and registry data, this study confirms that the application of the Ateco classification to the economic activities of individual entrepreneurs is significantly affected by coding errors, which largely depend on the user’s level of knowledge and expertise in applying the classification. It emerged that, in such cases, ordinary users — including the entrepreneurs themselves, accountants, and labour consultants — often confuse the statistical concept of ‘occupation’ with that of ‘economic activity’. This situation undermines the quality of statistics and requires action from the custodians of the classification to enhance its clarity.

### 1. Introduction

In Italy, there are approximately 4.7 million active enterprises, most of which are small and medium-sized. Of the over 4.5 million enterprises with fewer than nine employees, 67% are individual entrepreneurs.

Economic activity is the primary criterion for classifying economic units, including individual entrepreneurs, in business and economic statistics. The NACE statistical classification is used across Europe, covering more than eighty statistical domains. At the national level, statistics by economic activity must be produced using NACE or a national variant. The Italian classification of economic activities is called Ateco, an acronym for *attività economiche* (economic activities in Italian).

In the Italian statistical business register (SBR), NACE/Ateco codes are assigned to enterprises using both statistical and administrative sources. While larger enterprises are manually profiled by statistical experts, codes for individual entrepreneurs are typically generated automatically from administrative data. Indeed, the Ateco classification is also used by major Italian administrative bodies, such as the Chambers of Commerce and the Tax Agency, for non-statistical

purposes. Consequently, incorrect classification of individual entrepreneurs according to the Ateco system can significantly affect the quality of official statistics.

This research presents a discussion on the challenges that individual entrepreneurs face in correctly applying the classification of economic activities. Ordinary users — including individual entrepreneurs, accountants, and labour consultants — often misinterpret the classification due to the difficulty of distinguishing between the concept of ‘what one is’ (status) and ‘what one does’, which can also affect the quality of official economic statistics.

The reason is twofold. First, the terminology used in the classification tends to reflect the activities of larger enterprises, making it less intuitive for individual entrepreneurs. Second, individual entrepreneurs sometimes confuse the classification of economic activities with a separate statistical system that categorizes occupations, further complicating correct interpretation.

To date, and to the best of our knowledge, no official mapping exists between the Italian classification of economic activities and that of occupations, nor are there sufficiently comprehensive technical documents and studies on how individual entrepreneurs should be treated within economic activity classifications. This study represents a first attempt to address the issue and to lay the groundwork for practical guidelines. The analysis seeks not only to identify the key challenges but also to provide insights to support improvements in statistical systems and administrative frameworks.

This study is relevant for scholars and practitioners involved in official statistics and economic classifications, with relevance for international practices and standards. Indeed, similar interpretation issues concerning the activities of individual entrepreneurs may arise in other European countries that use the NACE classification or a derived version. This study also provides guidance for public administrations that classify entities for administrative purposes, primarily for fiscal reasons. The topic also engages with broader debates in labour economics, especially concerning non-standard forms of employment and self-employment, highlighting their implications for labour market analysis and policy.

This research work is presented into five sections. A brief introduction is provided in the first section while the second section is devoted to the background framework that is especially focused on the difference between a statistical classification of economic activities and that of occupations. All data and methods used in this study are presented in the third section. The main results are described in the fourth section while the conclusions and some future developments are provided in the last section.

## 2. Background

An individual entrepreneur (also known as sole proprietorship) is an enterprise owned exclusively by a single natural person, with no legal distinction between the owner and the business entity. The entrepreneur exercises his activity without having created a distinct legal person. Like all companies, every Italian individual entrepreneur is registered in the Italian SBR and is assigned a five-digit Ateco code that identifies the main economic activity.

### *2.1. An economic activity or an occupation?*

From a statistical perspective, an economic activity is not an occupation. Economic activities are represented through statistical classifications of economic activities — e.g. the international ISIC, the European NACE and the Italian Ateco — while occupations are classified using statistical classifications of occupations — e.g. the international ISCO, the Italian classification of occupations (Istat, 2024).

An economic activity takes place when inputs to a production process — such as natural resources, equipment, labour, manufacturing techniques, information networks or intermediary products — are combined to produce specific goods or services. Thus, an economic activity is characterised by inputs of resources and production processes that generate outputs (goods or services). More specifically, the criteria used to define and delineate NACE/Ateco categories can be summarised as follows: the inputs of goods, services and production factors; the production process and technique; the characteristics of outputs; the intended use of outputs; the statistical purposes of the classification; and the availability of data.

By contrast, a job consists of the tasks and duties performed, or expected to be performed by one person. Occupation refers to the kind of work performed in a job and represents a set of jobs whose main tasks and duties share a high degree of similarity. Skill denotes the ability to perform the tasks and duties associated with a given job. Within ISCO classification and its Italian version, occupations are grouped according to two dimensions of skill: skill level and skill specialisation.

### *2.2. The new NACE Rev. 2.1 and Ateco 2025 classifications*

According to the NACE introductory guidelines, units engaged in the same kind of economic activity are classified in the same NACE category. The NACE does not draw distinctions according to the kind of ownership of a production unit or its type of legal organisation or mode of operation, because such criteria do not relate to the characteristics of the activity itself.

Recently, a new classification rule concerning individual entrepreneurs has been introduced in the NACE Rev. 2.1 methodology (Eurostat, 2025; European Union, 2023). It states as follows.

*The activities of individual entrepreneurs are classified according to the economic activity they carry out, in other words according to the goods or services they are producing, which is not necessarily identical with the economic activity of the unit they are working for. For example, the principal activity of an independent doctor working in a hospital must be classified in group 86.2 'Medical and dental practice activities', depending on the specialist area for which medical services are provided.*

The above NACE guidelines are also valid for the Ateco classification representing the Italian version of the European NACE. Ateco 2025 (Alonzi and Viviano, 2025), directly derived from the NACE Rev. 2.1 classification, has replaced the previous version Ateco 2007 Update 2022 (also known as Ateco 2022) that instead had been directly derived from NACE Rev. 2 (Eurostat, 2008; European Union, 2006).

### 3. Research questions, data and methods

During the revision process that led to the release of the new Ateco 2025 classification, Istat collected several proposals aimed at improving the classification of individual entrepreneurs within the Ateco classification. For instance, national stakeholders called for a clearer recognition of economic activities run independently for example by herbalists, pharmacists, chefs, waiters, bus drivers, medical doctors, technical inspectors responsible for the periodic road-safety testing of vehicles, travel consultants, nurses, archivists, and others. This working arrangement has become increasingly prevalent across several sectors in recent decades; for instance, an increasing number of individuals prefer working on demand as independent pharmacists in various drugstores rather than being employed only by one of them.

Nevertheless, the terminology used within the Ateco classification is not always self-explanatory. Category labels often refer to the locations where activities are performed (e.g. 'activities of drugstores') or describe economic activities typically conducted by larger enterprises (e.g. influencer marketers may not identify with the definition of 'advertising agencies' which also encompasses agencies operated by individual entrepreneurs alongside larger firms).

Even if the contents of the new Ateco 2025 tried to solve the above gap, after the adoption of the new classification, users asked to Istat several clarification requests for the classification of individual entrepreneurs within the Ateco classification (e.g. brewers, mechanics, flight pilots, flight attendants, X-ray technologists, ironers). All

the above examples represent the starting list of input data of our study that fostered the main research questions of this research work:

- Is the classification of activities run by individual entrepreneurs enough clear within the NACE/Ateco?
- If not, which is the impact on statistical data based on the NACE/Ateco?

To address the above questions, a descriptive and exploratory study drawing on user inputs and administrative evidence was conducted. This approach intended to describe complex issues in real-world contexts and to offer insights into contemporary, unfamiliar phenomena.

More specifically, the study examined a selection of classification issues concerning the activities of individual entrepreneurs, as raised by users. Each user inquiry was first analysed from a conceptual perspective, which entailed going through the structure and explanatory notes of the statistical classification of economic activities to assess their clarity and comprehensiveness. In parallel, both statistical and administrative sources were consulted. The statistical data included official information on the structure of enterprises by legal status and economic activity, while the administrative data, provided by the Chambers of Commerce, contained textual descriptions of the economic activity for each enterprise.

It should be noted that not all individual entrepreneurs are registered in the Italian Business Register maintained by the Chambers of Commerce; some are recorded only in fiscal registers. However, administrative sources provided by the Tax Agency do not include open-text descriptions of the economic activities carried out by enterprises. For this reason, although the Chambers of Commerce database may be considered a limitation of the study, it currently represents the most suitable source for achieving the objectives of this research.

#### **4. Main results**

The main results are presented using a user-centred perspective and a case-study approach. Given the specificities of each case study across different sections and industries, this paper focuses on a selected subset, specifically the activities of:

- i. independent flight pilots and bus drivers (transportation industry);
- ii. independent chefs and waiters (restaurant industry);
- iii. independent medical doctors and x-ray technologists (health industry).

The presentation of each case study follows a consistent structure. Firstly, the original input request from national users is presented in order to contextualise the issue; secondly, the results of the conceptual and thematic NACE/Ateco analysis are

provided; and thirdly, findings from the consultation of registry counts and textual entries are reported.

#### *4.1. The activities of independent flight pilots and bus drivers*

Original input request from national users concerning independent flight pilots:

*Good morning, we would like your position about the correct classification for a freelance airline pilot, currently a pilot of airliners. He is currently classified in Ateco 2022 class 52.23 'Service activities incidental to air transportation'. Alternatively we would choose Ateco 2025 class 74.99 'All other professional, scientific and technical activities n.e.c.'*

Independent flight pilots are individuals working for airline companies or private jet charters companies without being paid employees of those companies. Thus, flight pilots are involved in the transport of passengers or freight by air and must be classified within NACE/Ateco division 51 'Air transport', specifically in group 51.1 if it concerns passenger air transport or in group 51.2 if it concerns freight air transport. On the contrary, the classes proposed by national users in the original input request encompassed activities like:

- operation of terminal facilities (e.g. airway terminals), airport and air traffic control activities, storage of aircraft, fire-fighting and fire-prevention services at airports;
- appraisal activities (for antiques, jewellery, etc.), bill auditing and freight rate information, weather forecasting activities, security consulting, agronomy and environmental consulting.

The above original input request confirms that there must exist individual entrepreneurs undertaking scheduled passenger air transport activities. In other words, there could be individual entrepreneurs classified in NACE/Ateco class 51.10. However, such an evidence is not supported by official statistical data where passenger air transport activities are broken down into two Ateco 2022 categories:

- 51.10.1 Scheduled air transport of passengers over regular routes
- 51.10.2 Charter flights for passengers and sightseeing flights

As shown in Table 1, official statistical data report no individual entrepreneurs classified under scheduled air transport of passengers over regular routes (Ateco 2022 category 51.10.1).

**Table 1 – Legal units classified in Ateco 2022 class 51.10 Passenger air transport by Ateco category and legal form (reference year 2023).**

Ateco 2022 category	No. of individual entrepreneurs	No. of other legal forms	Total
51.10.1	0	17	17
51.10.2	8	71	79
<b>Total</b>	<b>8</b>	<b>88</b>	<b>96</b>

These findings can be read in two ways: either the only existing freelance airline pilot is the one who contacted Istat for clarification, or freelance airline pilots are classified under a different Ateco 2022 code. To support the latter assumption, a text search was conducted among the activity descriptions of companies registered with the Chambers of Commerce. The results suggest that individual entrepreneurs involved in air transport are more commonly engaged in pilot training courses or in aerial filming and photography services using aircraft.

A similar issue arisen within the NACE/Ateco transportation industry is related to freelance bus drivers.

Original input request from national users concerning independent bus drivers:

*Good morning, I am a bus driver working on a fee or contract bases. Despite having professional certifications as well as a vat number, my activity is not mentioned in the classification. Which NACE class would you suggest?*

The NACE/Ateco group 49.3 ‘Other passenger land transport’ includes all land-based passenger transport activities other than rail transport; this group also includes land transport by motor bus. Freight transport by road is instead classified in NACE/Ateco group 49.4. Thus, the above groups are not reserved only to bus companies owning the buses and employing bus drivers but also to independent bus drivers.

#### 4.2. The activities of independent chefs and waiters

Original input request from national users concerning independent chefs and waiters:

*Good morning, are independent chefs and waiters working for a restaurant classified in Ateco 2025 class 96.99 ‘Other personal service activities n.e.c.’?*

According to the new rule on individual entrepreneurs introduced in the methodology of the NACE Rev. 2.1 classification, both the activities of chefs and waiters working for one or even more restaurants should be classified according to the goods or services they are producing, and therefore fall within the new NACE/Ateco class 56.11 ‘Restaurant activities’. Importantly, even when chefs and waiters provide their services independently to households, their activities remain

part of class 56.11 and can not be regarded as personal service activities (NACE/Ateco division 96). Such a positioning is further mentioned in NACE/Ateco new class 96.91, which covers the provision of a range of domestic personal service activities, such as cooking, washing, cleaning and ironing services, at home for households (these are combined activities); however, when only one activity is performed it is classified according to that specific activity.

In the field of restaurant activities, individual enterprises managing a restaurant account for 27% of all enterprises classified in NACE/Ateco division 56 'Food and beverage service activities' and for 45.4% of those in NACE/Ateco group 56.1 'Restaurants and mobile food service activities' according to the Ateco 2022 code.

This finding confirms the widespread presence of restaurants managed by individual entrepreneurs. By contrast, the phenomenon of freelance chefs working outside their own restaurants or households is less readily measurable, as some are classified under 'Event catering and other food service activities' (group 56.2) or under 'Other personal service activities n.e.c.' (former NACE/Ateco 96.09). In fact looking at the textual description of the economic activities registered in the Italian Business Register managed by the Chambers of Commerce there is a certain number of chefs who declared that they work independently at the customers' location (in Italian *a domicilio*). However, no other information about the type of customers (households or other enterprises, e.g. restaurants) is available.

On the one hand, if the service is provided for households, it had to be classified in Ateco division 96 according to a proper explanatory note included in the national classification Ateco 2022. According to the new Ateco 2025 classification, it should instead be recorded into NACE/Ateco division 56 in line with the new classification rule concerning individual entrepreneurs. On the other hand, if the service is provided for other enterprises, e.g. restaurants, it had to be classified in NACE/Ateco group 56.1; according to the new classification, it should be still classified in NACE/Ateco group 56.1.

To sum up, such a phenomenon (i.e. independent chefs working for one or more restaurants) is not measurable even if the original input request confirms that it exists.

#### *4.3. The activities of independent medical doctors and X-ray technologists*

Original input request from national users concerning independent medical doctors:

*Good morning, what kind of units are those classified in Ateco 2022 class 86.10 as individual entrepreneurs?*

The above request concerns hospital activities. The former NACE/Ateco class 86.10 in fact included short- or long-term hospital activities, i.e. medical, diagnostic

and treatment activities. It covered general hospitals (e.g. community and regional hospitals, hospitals of non-profit organisations, university hospitals, military-base and prison hospitals) as well as specialised hospitals (e.g. mental health and substance abuse hospitals, hospitals for infectious diseases, maternity hospitals, specialised sanatoriums).

At national level, the former NACE class 86.10 'Hospital activities' was broken down into four Ateco 2022 categories:

- 86.10.1 Activities of general hospitals (excluding university hospitals)
- 86.10.2 Activities of specialised hospitals
- 86.10.3 Activities of university hospitals
- 86.10.4 Provision of long-term hospital activities

**Table 2 – Legal units classified in Ateco 2022 class 86.10 Hospital activities by Ateco category and legal form (reference year 2023).**

Ateco 2022 category	No. of individual entrepreneurs	No. of other legal forms	Total
86.10.1	383	92	475
86.10.2	243	41	284
86.10.3	0	0	0
86.10.4	106	15	121
<b>Total</b>	<b>732</b>	<b>148</b>	<b>880</b>

From the point of view of the users providing the original input request, the former NACE/Ateco class 86.10 was supposed to classify only activities performed by hospitals legally recognised to treat patients. However, this criterion was less clearly defined in the previous classification, and a number of independent medical doctors working primarily for hospitals were also recorded under this category.

Fortunately, the new classification rule concerning individual entrepreneurs made clear that individual entrepreneurs are classified according to the economic activity they carry out, in other words according to the goods or services they are producing, which is not necessarily identical with the economic activity of the unit they are working for. Thus, the principal activity of an independent doctor working in a hospital must be classified in group 86.2 'Medical and dental practice activities', depending on the specialist area for which medical services are provided, and not within hospital activities.

A similar issue arisen within the NACE/Ateco health industry concerns activities of independent x-ray technologists.

Original input request from national users concerning independent x-ray technologists:

*Good morning, we need your support about the classification of independent x-ray technologists represented by our association.*

Activities of independent x-ray technologists are classified in Ateco 2022 category 86.90.1 'Diagnostic imaging services and medical laboratory activities' corresponding to Ateco 2025 category 86.91.0 where are included activities of medical laboratories providing analytic or diagnostic services, body fluid analysis or genetic testing, directly to outpatients with or without referral from healthcare practitioners. Specifically, activities of x-ray laboratories and other diagnostic imaging centres are classified here. Despite the wording used to describe the contents of this code ('laboratories', 'centres') also activities of independent x-ray technologists working for the same laboratories or centres, hospitals and other human health institutions are represented by the same Ateco code.

**Table 3 – Legal units classified in Ateco 2022 category 86.90.1 by legal form (reference year 2023).**

Legal form	No. of legal units
Individual entrepreneurs	4.989
Other	4.899
<b>Total</b>	<b>9.888</b>

Unfortunately, official statistical data (Table 3) are not meaningful in this case because among legal units operating as individual entrepreneurs there are both people running their own diagnostic laboratory/centre and people working as freelancers at diagnostic laboratories/centres of someone's else.

Nevertheless, the fact that the input request was provided by the representing association is instead very significant; a further discussion with the association itself has shown that currently freelance x-ray technologists are not classified in a consistent way due to the wording used within the classification to describe the activities.

## 5. Conclusions and future developments

In Italy, the NACE/Ateco classification is applied to all types of enterprises, including individual entrepreneurs, who account for 67% of the total. From a statistical perspective, economic activity defined through the NACE/Ateco system constitutes the primary criterion for business and economic statistics. From a non-statistical perspective, the NACE/Ateco code is also employed for tax purposes and for the allocation of incentives and contributions to economic activities.

The quality of official statistics based on the NACE/Ateco classification depends on the accuracy of the code assigned to each enterprise, including individual entrepreneurs. Likewise, administrative decisions that rely on NACE/Ateco codes can be considered reliable only if enterprises are classified in a consistent and coherent manner.

However, this study confirms that the application of statistical classifications, such as those of economic activities, is strongly influenced by coding errors, which largely depend on the knowledge and expertise of the users applying them. The descriptive and exploratory analysis shows that such errors are particularly frequent among individual entrepreneurs, with direct implications for statistical production, as their records are typically not subject to manual verification by expert statisticians.

Nevertheless, the authors acknowledge that this research work represents only a first and preliminary step in addressing an important and persistent issue that requires further investigation. In particular, the methodology needs to be improved by identifying additional sources capable of providing textual descriptions of economic activities carried out by individual entrepreneurs. In this regard, the existence of suitable fiscal sources could be better explored. Moreover, consideration could be given to designing an ad hoc survey targeting individual entrepreneurs classified within the main catch-all NACE/Ateco classes (e.g. new classes 74.99, 82.99 or 96.99).

At the moment of writing, all the issues arisen by users are being discussed with the main administrative bodies, especially the Chambers of Commerce, with the aim of strengthening cooperation with institutions that make use of the same NACE/Ateco classification. In parallel, most classification issues derived from the case-based analysis are being dealt as index entries, thus as extensive explanatory notes of the new Ateco 2025 classification, that will be soon disseminated to users (enterprises including individual entrepreneurs themselves, administrative bodies, accountants and labour consultants, trade associations). The short-term objective of this strategy is to promote the correct interpretation and, consequently, the proper application of the classification. The ultimate and most challenging objective is to achieve a more consistent use of the NACE/Ateco codes at the administrative level, thereby enhancing the quality of official statistics based on administrative data.

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