

Diploma mills and fraudulent credentials: The cost of fraud in education

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| Abstract

To what extent is counterfeiting present in the field of educational qualifications? How many people are affected, how many fake qualifications are in circulation, and how much money is generated by this phenomenon? What is its economic and social impact? The article attempts to answer these questions by drawing parallels between the wider fraud industry and the fraud industry in Higher education. The focus is on diploma mills and fraudulent credentials, and the analysis of the extent of these phenomena. The article refers to tools to prevent and account for these phenomena, including the latest possibilities offered by the use of artificial intelligence.

Keywords: Fraud, Diploma Mills, Credentials, Higher Education, cost of counterfeit, ethics.

1. Introduction

What is the extent of counterfeiting in the field of educational qualifications? How many “customers” are there, how many qualifications are in circulation, and what is the turnover generated by this phenomenon? What is the economic and social impact? Answering these questions is far from straightforward. This article aims to provide avenues for research to formulate possible answers, based on available data and research. Starting with the fraud industry as a whole, the article focuses on counterfeiting in the field of educational qualifications, with particular reference to higher education. The focus is on what is defined as commercial fraud, or organised fraud, i.e., fraud organised by criminal groups¹. The aim is to contribute to the debate on the scale and economic and social impact of the phenomenon, also in light of the new perspectives and risks introduced by digital transformation and, in particular, the use of artificial intelligence.

¹Cfr, Eaton, S. E., Carmichael, J. J., H., *Fake Degrees and Fraudulent Credentials in Higher Education, “Ethics and Integrity in Educational Contexts”*, Vol. 5, Springer Cham, 2023. United Nations Office on Drugs and Crime (UNODC), Organized fraud, Issue paper, Vienna, 2024. <https://www.unodc.org/documents/organized-crime/Publications/IssuePaperFraud-eBook.pdf>. [last accessed 3 October 2025].

2. Is education a commodity and a sellable good?

While fraud in education is as old as universities themselves², the modern reference to education as a "product" has its roots in the General Agreement on Trade in Services (GATS), which came into force in 1995 under the newly established World Trade Organisation (WTO), itself founded in 1995 as the successor to the General Agreement on Tariffs and Trade (GATT). While GATT, founded in 1948, primarily focused on goods, GATS represented a significant innovation by extending multilateral trade rules to the service sector, including higher education. Services under GATS were divided into 12 traded sectors, one of which is education³. GATS also introduced a structured framework for liberalising trade in services through four modes of supply (cross-border supply, consumption abroad, commercial presence, movement of natural persons), which influenced, *inter alia*, the literature and practice in higher education, such as in the case of so-called transnational education (TNE)⁴. While the commodification of education inherent in the GATS framework has sparked critical debate regarding the implications for educational quality, regulatory oversight, equity of access, and the erosion of education's social and civic functions, it has, in fact, allocated the concept of education in the context of tradable services. This is evident, *inter alia*, by the fact that some countries present education as a voice of their exports⁵. Starting from this assumption, without entering into the debate on the social, ethical, and public consequences of this conceptualisation, the counterfeit industry in higher education can be read in the broader context of the counterfeit industry at large, also from an economic point of view. This parallelism allows, on the one hand, the use of certain conceptual frameworks related to the fraud industry and counterfeit trade in a broader sense and, on the other hand, is justified by a series of characteristics that also recur in the field of fraud in education, as one of the various areas of organised crime.

3. The trade in counterfeit goods: a global and growing business

When looking at the phenomenon of counterfeit goods trade as a whole, evidence and data are limited⁶. In 2018, counterfeiting was the most significant criminal enterprise in the world, with estimated sales of between 1.7 and 4.5 billion US dollars per year, more than the drug market and human trafficking⁷.

² Lantero, L., Finocchietti, C., (a cura di), *Lauree 30 e frode*, Prefazione [Lorenzo Fioramonti], Roma, 2019. Cfr, Moulin, L., *La vita degli studenti nel Medioevo*, Jaca Book, 1992.

³ Business, communications, construction and engineering, distribution, education, environment, health, tourism and travel, recreation (cultural and sporting), transport, financial, and 'other' services.

⁴ Jandhyala, T., *Trade in higher education: The role of the General Agreement on Trade in Services (GATS)*, "Fundamentals of educational planning" 95, UNESCO: International Institute for Educational Planning, Paris, 2011. World Trade Organisation (WTO) General Agreement on Trade in Services (GATS): objectives, coverage and disciplines. https://www.wto.org/english/tratop_e/serv_e/gatsqa_e.htm. [last accessed 3 October 2025].

⁵ One example: GOV.UK, Explore education statistics, *UK revenue from education related exports and transnational education activity*, 19 June 2025. <https://explore-education-statistics.service.gov.uk/find-statistics/uk-revenue-from-education-related-exports-and-transnational-education-activity/2022>. [last accessed 3 October 2025].

⁶ Bharadwaj, V., Brock, M., Heing, M., et al., *U.S. Intellectual Property and Counterfeit Goods—Landscape Review of Existing/Emerging Research*, Federal Research Division, Library of Congress, U.S. Department of Commerce, February 2020.

⁷ Fontana, R., Girod, S. J.G., Králik, M., *How Luxury Brands Can Beat Counterfeits*, *Harvard Business Review*, 24 May 2019. <https://hbr.org/2019/05/how-luxury-brands-can-beat-counterfeits>. [last accessed 2 October 2025]. Shepard, W., *Meet The Man Fighting America's Trade War Against Chinese Counterfeits (It's Not Trump)*, Editor's Pick Asia, *Forbes*, 29 March 2018. <https://www.forbes.com/sites/wadeshepard/2018/03/29/meet-the-man-fighting-americas-trade-war-against-chinese-counterfeits/#%20db934f51c0d6>. [last accessed 3 October 2025].

One of the reference publications is the annual Organisation for Economic Co-operation and Development (OECD) European Union Intellectual Property Office (EUIPO) *Mapping Global Trade in Fakes 2025: Global Trends and Enforcement Challenges* report, which provides an overview of the evolution of the phenomenon over the years. According to the latest report (2025), in 2021, the value of global trade in fakes is estimated at 467 billion US dollars, corresponding to 2.3% of world trade. Looking at the European Union, the value of imports of fakes into the EU in 2021 is estimated at 99 billion euros, accounting for 4.7% of EU imports from the rest of the world⁸.

Looking at the Italian case, according to the Abstract Intellectual Property Elaborated Report of the Investigation on Counterfeiting (IPERICO) 2024 by the Ministry of Enterprise and Made in Italy (MIMIT), the value of counterfeit products is €187.9 million for 2023, up from the previous year⁹. The top types of counterfeit goods, both internationally and nationally, are clothing, clothing accessories and footwear. The scale of this illicit trade is influenced by changes related to globalisation, trade facilitation, the growth of e-commerce and the specialisation of industries across countries, which have reshaped the way products are designed, manufactured and delivered. While these changes in global trade have produced numerous benefits, for example, by enhancing the welfare of nations, boosting consumer satisfaction, and driving economic growth, they have also introduced new levels of complexity and vulnerability¹⁰.

Although these data are very relevant and provide a valuable international benchmark, by their very nature, they represent only a small part of the trade in counterfeit goods: seizure data can provide at best a baseline of counterfeit activity, but they do not give a clear sense of the full scale of the problem. What's more, seizure data capture only goods transported across an international border, completely missing domestic counterfeit trade; and, furthermore, they provide information only on tangible goods, not on "pirated" and counterfeit intangible (or less tangible) goods, as is the case with credentials and qualifications. These analyses indeed concern material products and use customs control data, while there is a lack of information on the volume of intangible goods, which are nevertheless exposed to the counterfeit market¹¹.

Although data is still limited and incomplete, the consequences of the counterfeit market are clear and include, among other things, damage to the wealth of countries and businesses operating legally, lower tax revenues and job losses, as well as a threat to global health, innovation and public safety.

4. Education fraud industry: challenges in data collection

Assessing the scale and impact of fraud in education, as well as the fraud industry as a whole, remains complicated today by several cultural and factual factors, which can be described as both subjective and objective. One reason is the fragmented and unsystematic nature of existing data. As recalled above, while customs controls provide valuable statistical data for quantifying the phenomenon of

⁸ OECD/EUIPO, *Mapping Global Trade in Fakes 2025: Global Trends and Enforcement Challenges*, Illicit Trade, OECD Publishing, Paris, 2025.

⁹ MIMIT, *Rapporto Iperico 2024. La lotta alla Contrappazione in Italia nel periodo 2008-2023*, 2024. https://www.uibm.gov.it/iperico/home/RAPPORTO_IPERICO_2024.pdf. [last accessed 3 October 2025].

¹⁰ OECD/EUIPO, *Mapping Global Trade in Fakes 2025...* cit.

¹¹ For an analysis of the literature on the Overall Magnitude of Counterfeit Markets, see Bharadwaj, V., Brock, M., Heing, M., et al., *ivi*. pp. 8-9.

material goods, albeit partially, it is much more complicated to assess an “intangible” object such as a false qualification, for which the “customs” are varied and vary according to the purpose for which the qualification is presented: the national authority responsible for recognition, the individual higher education institution in the case of access to further studies, the employer, the professional association, to name but a few. The division of competences at the national level - but sometimes also within the same institution - is one of the aspects that makes data collection problematic¹². A second element of complexity is the need to define the object of measurement and comparison in an unambiguous way, in order to be able to measure and compare it. The lack or non-use of a shared definition, which will be discussed in the following paragraph, represents a second element of complexity. The lack of benchmarks and uniform reporting challenges the effective exchange of information and the collection of comparable data, the detection of new trends and developments, and ultimately the capacity to prevent and combat such acts.

A third complexity is the ethical and social dimension. Many institutions and authorities are reluctant to talk about fraud in education, preferring to emphasise aspects of support for ethics and transparency. Disclosing data on fraud within an institution or country publicly carries with it the perception of risks related to image and reputation. Greater transparency in reporting data may be seen as a higher level of corruption than another organisation that is more reluctant to provide complete and accurate figures. On the other side of the spectrum, it is possible that those vocal and indignant organisations about integrity may be using this rhetoric as a shield for their unethical behaviour, in the phenomenon defined as the weaponisation of integrity¹³. This paradox creates a complex environment where discerning integrity is even more complex.

5. Defining fraud in education: the case of diploma mills and fraudulent credentials

Among the most recent scientific contributions to the definition and classification of fraud in higher education are two publications: *Fake Degrees and Fraudulent Credentials in Higher Education and Corruption in Higher Education*, which examine fraud in its broadest sense¹⁴. Eaton describes the fraud ecosystem through four dimensions: degree mills, admission fraud, contract cheating, and paper mills¹⁵. The publication notes that the fraud industry is actually made up of mega-corporations that offer multiple services in the academic fraud supply chain, from fake qualifications to scientific publications (and which are often linked to other areas of organised crime). From the point of view of qualification recognition, two types can be distinguished within the classification of “admission fraud”: diploma mills and counterfeit qualifications.

¹² CIMEA, *Riconoscimento accademico dei titoli di studio: Procedure, dati e sfide nelle istituzioni della formazione superiore in Italia*, DOC CIMEA, n. 142, 2024. https://www.cimea.it/Upload/Documenti/DOC%20CIMEA_142_1.pdf. [last accessed 3 October 2025].

¹³ Eaton, S. E., *Corruption in the post-plagiarism era: weaponizing reputation and morality in the name of integrity in higher education*, in Denisova-Schmidt, E., Altbach P. C., De Wit, H., (eds.), *Handbook on Corruption in Higher Education*, Edward Elgar Publishing Limited, 2025, pp.146-161.

¹⁴ Eaton, S. E., Carmichael, J. J., Pethrick, H., *Fake Degrees and Fraudulent Credentials*... cit. Denisova-Schmidt, E., Altbach, P. G., De Wit, H., *Handbook on Corruption*... cit.

¹⁵ Eaton, S. E., Carmichael, J. J., Pethrick, H., *Fake Degrees and Fraudulent Credentials*... cit.

5.1 Diploma mills

There is no agreed-upon definition of diploma mills¹⁶, even in terms of terminology, given that the terms “degree mill” and “diploma mill” are often used interchangeably in English.

The community of experts from centres in Europe and North America involved in the recognition of qualifications (ENIC-NARIC Networks¹⁷) has used the following definition: a diploma mill is

«a private institution, posing as an educational institution, which is neither recognised by national competent authorities nor duly accredited, and that awards fraudulent qualifications with no academic value¹⁸».

Another definition in the same context is that

“Diploma Mill” refers to a business posing as an educational institution, which sells bogus qualifications without any requirements for (serious) study, research or examination. Diploma mills operate without any recognition by national competent authorities or lawful accreditation, even though they may possess a licence to operate as a business¹⁹.

Beyond the definition, there is consensus on some of the characteristics that can identify a diploma mill, including²⁰:

- U lack of legal authority to operate as higher education institutions and to award official degrees;
- U credits and qualifications are offered based solely on life experience or CV review;
- U degrees can be purchased and there is a strong emphasis on fees and payment options (for instance, with credit card logos on the website);
- U courses may be very short in duration (e.g., a bachelor's degree in 5 days);
- U little or no attendance and interaction with academic staff required;
- U false or exaggerated claims of external quality review: a long list of accreditation agencies and affiliated bodies may be mentioned on the website;

¹⁶ Ibid.

¹⁷ The Networks of National Information Centres on recognition operating in 56 countries in the UNESCO Europe and North America region: ENIC-NARIC, about the ENIC-NARIC networks. <https://www.enic-naric.net/>. [last accessed 3 October 2025].

¹⁸ CIMEA, *Guide on Diploma Mills and other dubious institutions*, 2018a. <https://www.cimea.it/Upload/Documenti/Guidelines-on-Diploma-Mills.pdf>. [last accessed 3 October 2025].

¹⁹ NUFFIC, *EAR manual*, 2023, p.49. https://www.nuffic.nl/sites/default/files/2023-08/1.%20EAR%20Manual%202023_2nd%20edition.pdf. [last accessed 3 October 2025].

²⁰ Council for Higher Education Accreditation (CHEA), UNESCO, *Toward effective practice: discouraging degree mills in higher education*, 2009. CIMEA, *Guide on Diploma Mills...* cit. NUFFIC, *EAR manual...* cit.

- U academic staff whose degrees were issued by degree mills or failure to provide verifiable lists of academic staff and their qualifications;
- U no campus or business address is provided, e.g., relying solely on a post office box number;
- U the name of the diploma mill is similar to a well-known reputable higher education institution.

On 3 June 2022, the Committee of Ministers of the Council of Europe adopted a recommendation on countering education fraud²¹ that provides indications for four areas related to education fraud: prevention, prosecution, international cooperation, and monitoring. The Recommendation, according to the rule of the Council of Europe (Rule No. 1327 of 10 January 2011 on awareness and prevention of fraud and corruption²²), describes education fraud as

behaviour or action occurring in the field of education intended to deceive and obtain an unfair advantage. It includes: (i) the activities of diploma mills, accreditation mills, visa mills, essay mills and essay banks, as defined below; (ii) impersonation by undertaking in whole or in part any work or assessment required as part of a programme in the place of an enrolled learner; (iii) illegal or irregular use of authentic documents; (iv) plagiarism; (v) production or use of forged, plagiarised or counterfeit documents; and (vi) the offer of unrecognised or unaccredited qualifications with the intention of deceiving another²³.

The Council of Europe Recommendation marks a significant step forward, providing definitions that are relevant for all Council of Europe member states. In the Recommendation, a diploma mill (also known as a "degree mill") is defined as

«an institution or organisation which is not recognised by national competent authorities or organisations as an institution accredited or authorised by the law of any member state to confer awards or qualifications, and which purports, by means of misrepresentation, to issue such awards or qualifications²⁴».

Diploma mills do not work in isolation, but are part of the commercial fraud ecosystem, and are often accompanied by other mills, such as accreditation mills, credential evaluation mills, and visa mills²⁵. Contribution to the definition of diploma mill is also contained in the Council of Europe publication *Glossary of terms related to ethics and integrity in education*, which also refers to the ENAI Glossary and the ETICO definition²⁶.

²¹ Council of Europe, *Recommendation CM/Rec(2022)18 on countering education fraud*, 2022.

²² Council of Europe, *Recommendation CM/Rec(2019)9 of the Committee of Ministers to member States on fostering a culture of ethics in the teaching profession*, 2019.

²³ Council of Europe, *Recommendation CM/Rec(2022)18*, ivi, p.9.

²⁴ Ibid.

²⁵ CIMEA, *Guide on Diploma Mills...* cit. Council of Europe, *Countering education fraud. Recommendation CM/Rec(2022)18...* cit. Finocchietti, C., Hesselbäck, A., Lantero, L., *The role of ENIC-NARIC networks in countering diploma mills. In Means to counter education fraud. Legislation, practices, instruments*, Vol. 7, Council of Europe Publishing, 2023.

²⁶ Taugininė, L., Foltynek, T., *Glossary of Terms related to Ethics and Integrity in Education*, Vol. 8, Council of Europe Publishing, 2024.

5.2 Fraudulent credentials

Fraudulent degrees and qualifications are a related but distinct phenomenon. A distinction has been proposed between a fake degree, considered as coming from a university that does not exist, where both the degree and the university are fabrications; and a fraudulent degree, which appears to be from a legitimate university, but the person who holds the degree never actually completed their studies at that school²⁷. According to key documents at European Union level and Council of Europe level, the concept encompasses several cases: authentic documents forged, for example, to inflate grades; completely “invented” qualifications that do not correspond to any existing ones; copies of documents similar to parchments from famous universities; but also authentic documents used illegally or irregularly, such as impersonation, i.e. using a genuine document that is not awarded to the person using it, or a genuine document obtained fraudulently²⁸.

According to the PRADO Glossary, we are faced with document fraud in the following situations:

- U fraudulently obtained documents (authentic documents applied for on the basis of fraudulent source documents or fraudulently issued authentic documents);
- U misused authentic documents (with an intention to commit fraud);
- U use of expired authentic documents (with an intention to commit fraud);
- U forgery;
- U counterfeiting;
- U pseudo documents;
- U stolen and unlawfully personalised blanks²⁹.

While being two separate concepts, in the scope of this article both diploma mills and fraudulent qualifications are considered leading to non-authentic qualifications, in the sense of not being proxy of authentic knowledge. In its etymology, authenticity recalls the concept of authorship and of accomplishing something on one's own³⁰. In other terms, it is possible to affirm that a qualification is authentic when the holder is the “author”, i.e., the person who has completed the study path and really achieved the knowledge and competences certified by the qualification³¹.

²⁷ Eaton, S. E., Carmichael, J. J., Pethrick, H., *Fake Degrees and Fraudulent Credentials...* cit.

²⁸ Council of Europe, Recommendation CM/Rec(2022)18...cit. Council of the European Union, *Public Register of Authentic Travel and Identity Documents Online, Prado Glossary*, 2022.

²⁹ Ibid.

³⁰ “From *auto-* (auto-, “self”) + **évrētēs* (“hésentés” “to prepare, work on, succeed”), Wiktionary, Autenticity, 2024. <https://en.wiktionary.org/wiki/αὐθέντης>. last accessed 3 October 2025].

³¹ Finocchietti, C., Lantero, L., *Assessing the authenticity of Qualifications, Institutions and Identity*, in Bergan, S., Finocchietti, C., Kouwenaar, K., et al., (eds.), *Crossing Bridges between Education Systems, The History and Relevance of the Lisbon Recognition Convention*, “Universitas Quaderni”, n.1, CIMEA, 2025.

6. The extent of fraud in education

6.1 Providers

According to the World Higher Education Database of the International Association of Universities (IAU WHED), there are approximately 21,000 accredited higher education institutions worldwide³². The number is 25,000 post-secondary universities, according to other estimates³³. It is a highly diverse landscape of institutions in terms of type, size, location and specialisation. These figures refer to institutions recognized as official in their respective education systems. Still, many others do not fall into this classification, for example, because they are legitimate institutions that are not interested in official accreditation by the authorities of the system in which they operate. Alongside these, there is also a market of dubious or clearly fake institutions. In this logic, the space between official and unofficial institutions can be defined as a continuum

from those that are undeniably fake to those that have various levels of acceptance (...). Each person, organisation, agency, decision maker and gatekeeper must decide where to draw a line on a continuum, saying in effect, those on one side meet my needs, and those on the other side do not³⁴.

There are currently 264 million students enrolled in tertiary education, more than double the number in 2000. The global number of internationally mobile students more than tripled during the last two decades, rising from 2.1 million in 2000 to nearly 6.9 million in 2022³⁵. This increase in international mobility also led to growth in industries in this area (recruitment agents, credential evaluators, study advisors) that can also be targets of fraud.

If, purely speculatively, we were to hypothesise a percentage of fake institutions and dubious transactions in line with the general data for the counterfeit goods market reported at the beginning of the article, that estimate the volume of counterfeit industry as 2.3% of world trade (which, as mentioned, is probably underestimated), the figures would be worrying, to say the least.

While it is difficult to obtain objective data, what seems to emerge from the available data is that the industry of diploma mills and fraudulent credentials is growing. Several factors can contribute to creating opportunities for fraud in education: from the massification of higher education to the role of technology, competitiveness, the knowledge production system, and internationalisation³⁶. This massification changed the landscape of higher education institutions. Combined with this, credentialism and the idea that achievement of an academic degree or qualification has, in most societies, become a prerequisite for high social value occupations and earning a high income, has stimulated corrupt means to obtain these qualifications³⁷.

³² IAU, WHED, *The world of higher education at your fingertips*, 2025, <https://www.whed.net/home.php>. [last accessed 3 October 2025].

³³ Altbach, P. G., De Wit, H., *Growing opportunities for corruption in Higher Education*, in Denisova-Schmidt, E., Altbach P. G., De Wit, H., (eds.), *Handbook on corruption in Higher Education*, Edward Elgar Publishing Limited, 2025, pp. 13-19.

³⁴ Cfr, Ezell, A., Bear, J., *Degree Mills: The Billion-Dollar Industry That Has Sold Over a Million Fake Diplomas*, Prometheus Books, 2012.

³⁵ UNESCO, *Higher education: Figures at a glance*, 2025. <https://unesdoc.unesco.org/ark:/48223/pf0000394112>. [last accessed 3 October 2025].

³⁶ Altbach, P. G., De Wit, H., *Growing opportunities for corruption...* cit.

³⁷ Ibid. Wheelaan, L., Gavin Moodie, *Revisiting credentialism – why qualifications matter: a theoretical exploration*, "British Journal of Sociology of Education", Vol.46, n.6, 2025, pp. 874-892. <https://doi.org/10.1080/01425692.2025.2529814>. Ruth A. Wienclaw, *Credentialism*, EBSCO Knowledge Advantage, 2021. <https://www.ebsco.com/research-starters/social-sciences-and-humanities/credentialism>. [last accessed 3 October 2025].

Despite the difficulty of obtaining reliable data and statistics, given the complexity and constantly evolving nature of the degree mill world³⁸, scholars, experts and international organisations have attempted to capture the scale of the phenomenon. In 1986, the Council of Europe published a first confidential list of institutions awarding qualifications that were not officially recognised in Europe, as an internal document, which encompassed 700 in 1986. The exercise was repeated in 1996 and the institutions monitored numbered 1,300. As a national example, from 1988 to 1994, the Italian Ministry of Education published three lists of unaccredited institutions, with more than 60 entries. In 2009, a study conducted by CIMEA listed 50 fake institutions operating on the Italian market³⁹. In 2018, a consortium of ENIC-NARIC centres collected information on around 2,150 diploma mills⁴⁰.

A market that is growing in numbers, but which has also changed shape over the years, moving from what could be defined as small or medium-sized enterprises, or family businesses, to forms that resemble true multinationals, with a much greater volume of activity. One example is the University Degree Programme (UDP), an unaccredited consortium of diploma mills that began operating in 1998 and had at least 22 colleges and universities throughout Europe. The UDP established websites for each of its colleges and universities as well as for its own accrediting agencies and was estimated to have sold more than 30,000 fake online degrees, equating to proceeds totalling \$50 million to \$100 million or even more⁴¹. Another case study was Saint Regis University: it was one of more than 120 fictitious universities operated by a group that sold diplomas from 1999 until 2005, before it was shut down by the authorities. The government investigation concluded that during this period, their business sold 10,815 fake credentials to 9,612 people in 131 countries for a total of \$7,369,907⁴². A most recent case, and probably the biggest, is the case of Axact, the "World's Largest Diploma Mill"⁴³ as the press has called it. Axact created 4,000+ websites over a period of 25 years. In addition to the university websites, the "education" side of Axact's business activities also includes a huge number of fake high schools, accrediting agencies, governmental (mainly US) agencies, companies performing background checks and fraudulent credential evaluation services. In total, Axact has sold more than 9 million fake degrees, which makes Axact the world's largest degree mill ever, by far. According to sources, Axact grossed US\$70 billion between 2011 and 2022. While "education" is a good source of revenue, the main bulk of Axact's income comes from "upselling" – extortion, blackmail and threats. In 2022, the fake degree industry was estimated to have over 7 billion USD in global revenue. The price of a fake diploma can range from 199 to 25,000 USD⁴⁴.

³⁸ Draper, M., *Legal responses to education fraud*, in *Means to counter education fraud. Legislation, practices and instruments*, ETINED, Vol. 7, Council of Europe Publishing, 2023, pp.11-23. <https://rm.coe.int/prems-023823-gbr-2512-etined-vol-7-16x24-web-4/1680addf63>. e[last access 3 October 2025]. Eaton, E. L., Carmichael, J., *Fake Degrees and Credential Fraud, Contract Cheating, and Paper Mills: Overview and Historical Perspectives*, In Eaton, E. L., Carmichael, J., Pethrick, H., (eds.), *Fake Degrees and Fraudulent Credentials in Higher Education*, Springer, 2023.

³⁹ Lantero, L., *Fabbriche di titoli: L'indagine di campo*, In Benedetto Coccia, Carlo Finocchietti (a cura di) *Fabbriche di titoli. Istituzioni universitarie non accreditate e irregolari Titoli accademici non riconosciuti Sistemi di accreditamento e politiche di contrasto*, "Quaderni Universitas" 23, CIMEA, 2009.

⁴⁰ Finocchietti, C., Lantero, L., *Assessing the authenticity of Qualifications...* cit, pp. 55-62.

⁴¹ CIMEA, *Guide on Diploma Mills...* cit.

⁴² Ibid.

⁴³ Ezell, A., *Academic Fraud and the World's Largest Diploma Mill*. "College and University", Vol. 94, n.4 2019, pp.39-46. https://www.aacrao.org/docs/default-source/webinar-documents/94-4-academic-fraud-and-the-worlds-largest-diploma-mill.pdf?sfvrsn=4b276f1f_2. [last accessed 3 October 2025].

⁴⁴ Eaton, S. E., Carmichael, J., *Fake Degrees and Credential Fraud...* cit. Ezell, A., *Yesterday, Today, and Tomorrow: A Tour of Axact, the "World's Largest Diploma Mill"*, in Eaton, S. E., Carmichael, J. J., Pethrick, H., (eds), *Fake Degrees and Fraudulent Credentials in Higher Education*, Springer, 2023, pp. 49-94. Finocchietti, C., Hesselbäck, A., Lantero, L., *The role of ENIC-NARIC...* cit.

In Italy, a recent case reported by the press concerned an institution operating between Bosnia and Herzegovina and Italy, the International University of Goradze, which offered qualifications in medicine, physiotherapy, nursing and osteopathy to more than 1,000 students, with each programme costing between € 6,500 and € 20,000⁴⁵. According to the media, following this case, the Italian Ministry for Universities and Research reported six other non-accredited institutions to the judiciary for providing misleading information about the courses they offered: Harris University, Università Popolare degli Studi Sociali e del Turismo, Università Popolare Scienze della Nutrizione, Centro Studi Koinè Europa, Università degli Studi UnideMontaigne and Selinus University⁴⁶.

Looking at the data on falsified qualifications, CIMEA, as an ENIC-NARIC centre, receives less than 1% of false qualifications each year. It should be noted that this data only records qualifications defined in the credential evaluation as "confirmed falsified", i.e., those for which confirmation of non-authenticity has been received from the competent authority. In addition to these, there are a large number of qualifications for which there are reasonable doubts about authenticity, but which are not included in the "official" statistics on forgeries in the absence of official confirmation. Within this percentage, there are significant geographical differences, with some countries having a very high percentage of false qualifications and others where it is difficult, inappropriate or risky for the holder of the qualification to refer to the country's authorities for confirmation of authenticity (e.g. in countries where there is ongoing conflict, or in the case of refugees). Alongside false qualifications, there are also false certificates of comparability signed by CIMEA as ENIC-NARIC centre, a market in which the role of agents appears to be significant.

The CIMEA figures represent only a small proportion of the qualifications in circulation in Italy, where there are numerous authorities responsible for recognition. To date, there is no single method of data collection, even within the higher education sector. Looking at the international level, 422 fake qualifications were shared in the two-year period 2020-22 as part of the Erasmus+ FraudScan project by ENIC-NARIC centres in six countries (Italy, France, Germany, Ireland, the Netherlands and Sweden) as part of the Erasmus+ FraudScan project, with the aim create a reference database of recurring patterns of counterfeiting identified by ENIC-NARIC centre experts.

Alongside academic qualifications, there is a whole host of other fake certificates, which are not covered by this study but range from language certificates to letters of reference and CVs. To give an idea of the scale of the phenomenon, an analysis carried out in one country found that 44% of CVs had discrepancies in education claims, with 10% of those having false grades. Research by HEDD⁴⁷ found that only 20% of employers verify applicants' qualifications with the awarding body, relying instead on CVs or certificates and transcripts⁴⁸.

⁴⁵ Lo Porto, G., *Bosniagate, la truffa dell'università fantasma: Il sistema, l'organizzazione e tutti i protagonisti. Ecco cosa c'è da sapere*, "La Repubblica", March 19, 2024b. https://palermo.repubblica.it/cronaca/2024/03/19/news/bosniagate_jean_monnet_inchiesta_palermo-422337899/. [last accessed 3 October 2025].

⁴⁶ Lo Porto, G., *Non solo il Jean Monnet: Da Milano a Palermo passando per Napoli altri sei "atenei" online sospetti*, "La Repubblica", March 15, 2024a. https://palermo.repubblica.it/cronaca/2024/03/15/news/bosniagate_universita_sospette_milano_napoli_palermo-422313735/. [last accessed 3 October 2025].

⁴⁷ Higher Education Degree Datacheck (HEDD), *Advice and guidance on degree fraud. A toolkit for employers*, 2017. <https://cdn.prospects.ac.uk/pdf/HEDD%20degree%20fraud.pdf>. [last accessed 3 October 2025].

⁴⁸ Eaton, S. E., Carmichael, J., *Fake Degrees and Credential Fraud...* cit. Ezell, A., *Yesterday, Today, and Tomorrow...* cit. Finocchietti, C., Hesselbäck, A., Lantero, L., *The role of ENIC-NARIC...* cit.

With the aim of contributing to the full implementation of the 2022 Council of Europe Recommendation, and with a view to contributing to research and data collection in the sector, the proposal to establish a Centre to Prevent and Counter Education Fraud in Europe was born. In July 2025, the Council of Europe and the Italian Information Centre on Academic Mobility and Equivalence (CIMEA), acting under the mandate of the Italian Ministry for Universities and Research, signed a Memorandum of Understanding to establish the Centre in Italy⁴⁹.

6.2 Customers

While much research has been devoted to defining who the providers in the fraud industry are, an equally interesting topic is to outline the profile and understand who the customers are, or at least what the target categories of diploma mills are. According to experience in the recognition sector, there are at least seven categories of customers:

- U Mid-career adult professionals, for whom a new academic qualification can represent access to a higher level position in their workplace. The “flexibility” of the learning path and the promised validation of prior learning can represent a significant lever of attraction.
- U Young people with low-level academic qualifications or no qualifications at all, who, for professional purposes, need to obtain an academic qualification in a very short period of time.
- U People holding technical qualifications, for whom the achievement of an academic qualification can lead to financial benefits and improvements in their external image.
- U Craftsmen, tradesmen and small entrepreneurs: individuals who are already successful in their activity, but who feel the need to have a qualification to improve their reputation and image.
- U Students who have failed entrance examinations for programmes with numerus clausus or candidates who have failed to obtain the licence for a regulated profession, who can look for alternative pathways to gain such credentials.
- U People who practise emerging professions, which are normally neither recognised nor regulated.
- U “Qualification hunters”, i.e. people who, out of personal ambition, collect academic qualifications from different institutions⁵⁰.

⁴⁹ Council of Europe, *Council of Europe and CIMEA Join Forces to Launch New Centre Tackling Education Fraud*, 25 June 2025. <https://www.coe.int/en/web/ethics-transparency-integrity-in-education/-/council-of-europe-and-cimea-join-forces-to-launch-new-centre-tackling-education-fraud>. [last accessed 3 October 2025].

⁵⁰ CIMEA, *Guide on Diploma Mills...* cit.

7. Defence and prevention tools

Among the tools for combating fraud is the role of legislation and its effective implementation, as outlined in the recommendation on combating fraud in art. 7⁵¹. A study on the role of legislation in combating fraud was conducted among the countries participating in the Council of Europe's ETINED platform, the results of which were analysed in Volume 7 of the ETINED series⁵². An example of possible regulatory action is the protection of education terminology, with particular attention to institutional and academic titles and nomenclature of awards, from misuse and misrepresentation within their education systems⁵³. This is a simple but effective tool for identifying and reporting malpractice, as evidenced by the role of legislation in Denmark, Estonia⁵⁴ and Italy⁵⁵. Other prevention methods include awareness raising and information, training, codes of ethics, use of digital solutions, research, international cooperation and data collection⁵⁶. While there is renewed interest in research on the specific topic of diploma mills and fraudulent credentials, as has been noted, scientific contributions are not that numerous, and for this reason, study and research continue to play an essential role, especially in providing an overview⁵⁷. Training and education have always been important for professionals, both in ENIC-NARIC Networks and in national and international networks of professional credential evaluators (e.g., The Association for International Credential Evaluation Professionals - TAICEP). In Italy, a reference practice for the standards of the credential evaluator profession has been defined as a basis and preparatory step for the establishment of APICE, the Italian Professional Association of Credential Evaluators. The mapping exercise identified 15 tasks, 44 categories of knowledge (K) and 51 skills (S), formalised in the UNI Reference Practice Number 120:2021⁵⁸. Among the tasks, one refers to "Verify the institution and/or the programme", and a second one to "Verify the authenticity of the documentation".

Looking at skills and knowledge, below is one related to the domain of countering fraud.

K-knowledge:

K25: Be aware of the phenomenon of diploma mills and accreditation mills.

K29: Know the main methods of verifying the authenticity of a qualification (security features such as watermarks, stamps, etc.; databases for online verification, etc.) and the main standards of reference with respect to the format and characteristics in the various education and training systems.

S-Skills:

S29: Know how to identify a fake institution (so-called "diploma mills") and a fake accreditation agency (so-called "accreditation mills").

⁵¹ Council of Europe, *Countering education fraud. Recommendation CM/Rec(2022)18 and explanatory memorandum*, 2022. <https://rm.coe.int/ok-prems-137222-gbr-2512-cmrec-2022-18-et-expose-motifs-a5-web-1-/1680a96147>. [last accessed 3 October 2025].

⁵² Draper, M., *Legal responses to education fraud...* cit.

⁵³ Council of Europe, *Countering education fraud. Recommendation CM/Rec(2022)18...* cit.

⁵⁴ CIMEA, *Guide on Diploma Mills...* cit.

⁵⁵ Lantero, Finocchietti (a cura di), *Lauree 30 e frode...* cit.

⁵⁶ Council of Europe, *Countering education fraud. Recommendation CM/Rec(2022)18...* cit.

⁵⁷ Denisova-Schmidt, E., Altbach P. G., De Wit, *Handbook on Corruption in Higher Education...* cit. Eaton, S. E., Carmichael, J., *Fake Degrees and Credential Fraud...* cit.

⁵⁸ Ente Italiano di Normazione (UNI), CIMEA, Prassi di Riferimento. *UNI/PdR 120:2021, Non-regulated professional activities—Credential evaluator—Requirements for knowledge, skills, autonomy and responsibilities*, UNI, 2021. https://www.apice-italia.it/Upload/Documenti/PDR_en.pdf. [last accessed 3 October 2025].

S32: Know how to verify the authenticity of a qualification and its compliance with the standards of the system it comes from.

S33: Know how to identify and evaluate false and counterfeit documents, be able to identify anomalies or inconsistencies in documents that may be indicators of fraud, or that require a more convincing explanation during the evaluation phase.

8. The authentication industry: the digital alternative and the possible role of Artificial Intelligence (AI)

Over the years, the debate on combating fraud has increasingly emphasised the importance of digital alternatives, i.e., the need to build secure systems for the exchange of qualifications and credentials. This issue is addressed in international policies, for example among the 47 countries of the European Higher Education Area (EHEA), which in the last three communiqués signed by all ministries in charge of higher education have supported, on the one hand, the need for digital solutions to facilitate the secure, efficient and transparent exchange of student and institutional data to support recognition, quality assurance and mobility, in a logic of interoperability⁵⁹. On the other hand, the EHEA ministers have expressed their commitment to countering diploma and accreditation mills, fraudulent qualifications and academic cheating services, made more accessible through developments in the digital field⁶⁰, with an awareness of the role of technology as a two-faced Janus. At the global level, the UNESCO Global Recognition Convention, which entered into force in 2023 and has currently been ratified by 38 states (data as of April 2025)⁶¹, frames technology as a tool to combat fraud:

«States Parties commit to adopting measures to eradicate all forms of fraudulent practices regarding higher education qualifications by encouraging the use of contemporary technologies and networking activities among States Parties (Article III.8)⁶²».

The use of digital tools and the secure exchange of digital student data have been seen as a way to prevent and minimise areas of action for the circulation of fraudulent qualifications, while also being a powerful tool in the hands of fraudsters.

The role of digitalisation and secure digital exchange of student data, qualifications and credentials has been explored in several documents and articles⁶³. The role of digitalisation, in particular, has been

⁵⁹ European Higher Education Area (EHEA), *Paris Communiqué*, 25 May 2018. https://ehea.info/Upload/document/ministerial_declarations/EHEAParis2018_Communique_final_952771.pdf. *Rome Ministerial Communiqué*, 19 November 2020 http://www.ehea.info/Upload/Rome_Ministerial_Communique.pdf. [last accessed 3 October 2025].

⁶⁰ European Higher Education Area (EHEA), *Tirana Communiqué*, 2024. <https://ehea2024tirane.al/wp-content/uploads/2024/06/Tirana-Communique.pdf>. [last accessed 3 October 2025].

⁶¹ UNESCO, *Higher Education Global Convention*. <https://www.unesco.org/en/higher-education/global-convention/states-parties?hub=70286>. [last accessed 3 October 2025].

⁶² UNESCO, *Global Convention on the Recognition of Qualifications concerning Higher Education*, 2019, Article III.8. <https://www.unesco.org/en/legal-affairs/global-convention-recognition-qualifications-concerning-higher-education?hub=66535>. [last accessed 3 October 2025].

⁶³ CIMEA, *Guide on Diploma Mills and other dubious institutions*, 2018a... cit. Chiara, C., Lantero, L., *Assessing the authenticity of Qualifications...cit*, Johansson, E., Finocchietti, C., *The digital alternative. In Means to counter education fraud. Legislation, practices, and instruments*, ETINED, Vol. 7, Council of Europe Publishing, 2023, pp. 67-79, <https://rm.coe.int/prems-023823-gbr-2512-etined-vol-7-16x24-web-4-/1680addf63>. [last accessed 3 October 2025]. NUFFIC, *Digital Student Data & Recognition*, A White Paper for the ENIC-NARIC Networks, April 2020. <https://www.nuffic.nl/sites/default/files/2020-08/digital-student-data-and-recognition.pdf>. [last accessed 3 October 2025].

seen as a relevant element in preventing fraud and supporting verification of authenticity. The model for verification of authenticity can be seen as “trust in verification”, i.e., verification carried out through online digital portals or databases available at the national or institutional level. With advancing levels of digital maturity in qualifications, it is possible to use the model of “trust in delivery”, in which “digitally native credentials” (credentials issued directly by institutions through channels such as blockchain or other online platforms) can be verified by accessing the credential itself⁶⁴.

In the last 30 years, the discourse on digitalisation in the community of recognition experts in the European context, in the framework of the ENIC and NARIC Networks, has evolved from the concept of support for transparent and accessible information provision to the idea of “digital transformation”⁶⁵, as a process involving all aspects of the work on recognition in a holistic perspective⁶⁶. The recent development in the widespread use of poses new questions and perspectives on recognition policies and practices. While the regulatory framework at the national and international levels is taking shape in the European context and beyond, with specific relevance for recognition⁶⁷, the use of AI seems to present both risks and opportunities in the verification industry.

Verification can be done through a variety of means, depending also on the maturity of digital data and on the digital methods of verification available⁶⁸. One line of use is to “automate” verification actions, such as filling in an online verification database with the data recorded in the qualifications. Another way is to compare and check relevant features of the documents to be analysed against an already available database, to spot inconsistencies and mistakes that can constitute a sign of fraud⁶⁹. This can be done with natural language processing, but also with computer vision. Of course, the risks of bias in the system are real, such as the fact that fraudsters can use AI to replicate very sophisticated qualifications. Another dimension is the role of agentic AI, which is the current area of development. If, from a technological point of view, the recognition industry is in the testing and piloting phase, a few key elements are beginning to be outlined to drive sustainable and ethical innovation in the field: human-centred evaluation, which means human oversight of all phases of the evaluation; robust process and data governance; the central role of research and innovation, and cooperation within the Higher Education Sector and beyond; AI literacy and training, as skills remain central; and networking and cooperation among recognition professionals⁷⁰.

⁶⁴ Johansson, E., Finocchietti, C., *The digital alternative...* cit.

⁶⁵ UNESCO, *Six pillars for the digital transformation of education*, 2024. <https://unesdoc.unesco.org/ark:/48223/pf0000391299>. [last accessed 3 October 2025].

⁶⁶ Finocchietti, C., Spitalieri, S., *Digital technologies in the context of recognition*, in Bergan, S., Finocchietti, C., Kouwenaar, K., et al., (eds.) *Crossing Bridges between Education Systems. The History and Relevance of the Lisbon Recognition Convention*, “Universitas Quaderni”, n.1 2025, pp. 114-126. https://rivistauniversitas.it/document/q/quaderni_01_2025.pdf

⁶⁷ CIMEA, *Artificial intelligence and recognition of qualifications: Opportunities and risks from an ENIC-NARIC perspective*, DOC CIMEA n.141, 2023. https://www.cimea.it/Upload/Documenti/Artificial_Intelligence_and_Recognition_of_Qualifications.pdf. [last accessed 3 October 2025]. Finocchietti, C., Spitalieri, S., *Digital technologies in the context of recognition...* cit.

⁶⁸ CIMEA, *Guide on Diploma Mills and other dubious institutions*, 2018b. https://www.cimea.it/Upload/sfogliabili/guidelines_on_diploma_mills/mobile/index.html#p=4. [last accessed 3 October 2025].

⁶⁹ CIMEA, *Artificial intelligence and recognition of qualifications...* cit.

⁷⁰ Guèye, L., Seow-Ganesan, D., Lantero, L., et al., *AI use in qualifications recognition: Five key factors*, “University World News”, 10 January 2025. <https://www.universityworldnews.com/post.php?story=20250109122353833>. [last accessed 3 October 2025].

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