

IMPLEMENTATION OF DUAL EDUCATION IN HIGHER EDUCATION INSTITUTIONS IN THE REPUBLIC OF MOLDOVA

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Abstract: *The purpose of the research is to analyze the institutional and legislative framework of dual education, identify the main benefits of this educational model, and evaluate its role in increasing graduates' employability and strengthening cooperation between universities and the business sector. The article examines the implementation and development of dual higher education in the Republic of Moldova as a modern mechanism for aligning university studies with labor market requirements.*

Methodology used is based on qualitative, documentary, comparative, and analytical methods used to examine analysis of official reports, legislative documents, methodological guides, and materials developed within the European project COOPERA – "Integrating Dual Higher Education in Moldova and Ukraine". By analyzing official statistics and the experiences of institutions participating in the pilot projects, the study incorporates aspects of empirical research and case study analysis. Three Moldovan universities—the Academy of Economic Studies of Moldova (ASEM), the Technical University of Moldova (UTM), and the Free International University of Moldova (ULIM)—are the focus of special attention regarding the pilot implementation of dual higher education (Academy of Economic Studies of Moldova, 2021). The process of implementing and developing dual higher education inside higher education institutions in the Republic of Moldova is the subject of this article's research.

The findings reveal that the successful implementation of dual vocational education since 2014 created favorable conditions for extending the model to higher education institutions beginning with 2022. Statistical data demonstrate a high employability rate among graduates of dual programs and increased interest from employers in participating in the educational process. The study also emphasizes how dual higher education helps students gain practical skills, makes it easier for them to enter the workforce, and advances the modernization of the country's educational system.

According to the article's conclusion, dual higher education is a strategic path for the Republic of Moldova that may enhance the standard of higher education and promote sustainable economic growth by fostering closer ties between universities and businesses.

Keywords: *Dual education, higher education, labor market, university-business partnership, Republic of Moldova*

JEL: I21, I23, J24, O15

Introduction

During the last decade, the Republic of Moldova has experienced significant transformations in the economic, social, educational, and institutional environment, generated both by globalization processes and by the country's European integration aspirations. New demands on the caliber of professional training and the competences of university graduates have been imposed by the modernization of the national economy, digitalization, technological advancement, and the growing competitiveness of the labor market. In these circumstances, the higher education system has emerged as one of the major determinants of the nation's sustainable economic growth and the development of human capital.

"The dual education model is increasingly recognized at the European level as an effective mechanism for aligning educational systems with labor market requirements. Based on the combination of theoretical instruction and practical training within companies, dual education contributes to the development of professional competencies, facilitates graduates' transition to employment, and strengthens cooperation between universities and the business sector. The German

dual education system is often considered a reference model due to its high level of employability and strong institutional partnerships between educational institutions and employers." (Călugăreanu, 2019).

The relevance of the research topic is determined by the increasing necessity to adapt higher education to the real demands of the labor market. Employers are no longer focused exclusively on theoretical knowledge, but increasingly require graduates with practical experience, professional adaptability, and applied competencies. In the Republic of Moldova, one of the major vulnerabilities of the traditional higher education system remains the disproportion between theoretical preparation and practical training, which often complicates graduates' integration into professional activity. Similar conclusions are emphasized in studies dedicated to the implementation of dual higher education within the Erasmus+ COOPERA project.

"The motivation for choosing this topic is closely related to the recent implementation of dual higher education in Moldova, the limited number of scientific studies dedicated to this educational model at university level and the topic is examined within the author's doctoral research on dual higher education in the Republic of Moldova. Although dual education was introduced in vocational technical education beginning with 2014, its positive results regarding employability, employer involvement, and workforce qualification encouraged the extension of this model to higher education institutions. Starting with the academic year 2022–2023, the dual higher education model began to be piloted within three universities from the Republic of Moldova: the Academy of Economic Studies of Moldova (ASEM), the Technical University of Moldova (UTM), and the Free International University of Moldova (ULIM)". (Solcan et al., 2024).

The purpose of this research is to analyze the implementation process of dual higher education in the Republic of Moldova, identify its opportunities and challenges, and evaluate its contribution to increasing graduates' competitiveness and strengthening university-business cooperation. The research methodology is based on qualitative analysis of scientific literature, legislative documents, institutional reports, methodological guides, and official materials developed within the COOPERA project. Additionally, comparative and analytical approaches were used to examine the evolution of dual education and its adaptation to the Moldovan higher education system.

The current stage of research demonstrates that dual higher education is still in an early development phase in the Republic of Moldova, but existing studies and pilot initiatives indicate significant potential for improving educational quality, increasing employability, and modernizing the relationship between universities and the business sector.

Basic content

Dual higher education represents an efficient model of professional training based on close cooperation between the university, the student, and the business sector. By combining theoretical preparation with practical experience carried out directly within companies, this system contributes to the development of competitive specialists capable of responding quickly and effectively to labor market demands. At the same time, dual education facilitates the professional integration of graduates and reduces the gap between the competencies acquired during the educational process and the actual needs of employers (Covaș & Stih, 2023,).

According to the data presented within the COOPERA project and the methodological materials developed for the implementation of dual education, during the period 2016–2020 approximately 5,300 dual training places were subsidized from the state budget, while more than 4,100 apprentices were enrolled in over 45 occupations and specialties provided by around 35 vocational and technical education institutions across the country. The average employability rate of graduates from these programs reached approximately 70%, of which nearly 38% remained employed within partner companies. These results confirm that dual education significantly contributes to the integration of young people into the labor market and to reducing the shortage of qualified workforce (COOPERA Project, 2021).

The success achieved within vocational technical education represented a determining factor for the extension of the dual system to the higher education level as well. Thus, ”the year 2022 marks the beginning of the implementation of dual higher education in the Republic of Moldova through the launch of a pilot program carried out within the European project COOPERA – “Integrating Dual Higher Education in Moldova and Ukraine”, coordinated by the Academy of Economic Studies of Moldova. The project was implemented during the period 2021–2024, with a total budget of EUR 967,200, aiming to develop a flexible and functional model of dual higher education in the Republic of Moldova and Ukraine” (COOPERA Project handbook, 2021).

The pilot program was implemented in three higher education institutions:

1. Academy of Economic Studies of Moldova (ASEM),
2. Technical University of Moldova (UTM),
3. Free International University of Moldova (ULIM).

Within ASEM, the bachelor’s degree programs “Business and Administration” and “Applied Informatics” were launched, with a study duration of 3 years and 180 ECTS credits.

At UTM, the dual education model was introduced for the specialties “Automation and Informatics” and “Robotics and Mechatronics”, programs with a duration of 4 years and 240 ECTS credits.

At the same time, ULIM implemented the dual system within the master’s program “Diplomacy, Security, Business and Communication”, with a duration of 2 years and 120 ECTS credits.

The results achieved within the pilot programs implemented starting with the 2022–2023 academic year demonstrate both the growing interest of the business environment in direct participation in the professional training process and the efficiency of this model in developing students’ practical competencies.

A relevant example is the dual bachelor’s degree program “Business and Administration” within the Academy of Economic Studies of Moldova, where in 2025 a total of 14 students were involved in practical training activities carried out within important partner companies such as “Efes Vitanta Moldova Brewery” JSC, “Moldtelecom” JSC, “Moldcell” JSC, “MAIB” Commercial Bank JSC, and “MGF Engros” LLC. The diversity of the companies involved confirms the expansion of cooperation between higher education institutions and the private sector, as well as the strengthening of the relationship between the academic environment and the real economy. The table below presents the figures described above.

Table 1. Distribution of Students and Partner Companies.

Partner Company	Number of Students
Efes Vitanta Moldova Brewery JSC	6
Moldtelecom JSC	4
Moldcell JSC	2
MAIB Commercial Bank JSC	1
MGF Engros LLC	1

Source: compiled by the author based on ASEM internal data for the 2024–2025 academic year.

The Ministry of Education and Research of the Republic of Moldova expanded the use of this type of study for the 2025–2026 academic year due to the success of the initial dual university programs. Therefore, the extension process targets other higher education institutions in addition to the universities that initially took part in the pilot project: the Academy of Economic Studies of Moldova, the Technical University of Moldova, and the Free International University of Moldova. According to the Ministry of Education and Research of the Republic of Moldova (2024), the dual higher education model is being expanded to additional universities beginning with the 2025–2026 academic year. This decision reflects the growing interest of public authorities in developing a practice-oriented educational system aligned with the current needs of the labor market.

Another important aspect of the expansion process is the diversification of dual study programs. While in the initial stage dual higher education was mainly focused on the fields of business, informatics, and engineering, for the 2025–2026 academic year its extension is aimed toward priority fields for the national economy, such as information technologies, pedagogy, advanced engineering, public administration, and other interdisciplinary specialties. This trend demonstrates the flexibility of the dual education model and its capacity to adapt to contemporary economic and technological changes.

As presented above, currently, the dual higher education system is implemented or piloted within five universities in the Republic of Moldova, with the following officially identified specialties/study programs, see table 2:

Table 2. Dual Higher Education Study Programs Implemented within Universities of the Republic of Moldova

University	Dual Study Specialties / Programs	Level
Academy of Economic Studies of Moldova	Business and Administration; Applied Informatics; Marketing and Logistics; Finance and Accounting	Bachelor’s Degree
Technical University of Moldova	Automation and Informatics; Robotics and Mechatronics	Bachelor’s Degree
Free International University of Moldova	Diplomacy, Security, Business and Communication	Master’s Degree
Moldova State University	programs under expansion/implementation for the 2025–2026 academic year	Bachelor’s Degree
“Ion Creangă” State Pedagogical University	programs under expansion/implementation for the 2025–2026 academic year	Bachelor’s Degree

Source: compiled by the author based on data from the official websites of these universities

Important observations:

- ASEM has the most extensive dual education offer among the universities in the Republic of Moldova, including programs in economics and information technology.
- UTM was the first university to officially implement dual engineering programs at the bachelor’s degree level.
- ULIM implements the dual education model at the master’s degree level through the program “Diplomacy, Security, Business and Communication”.
- For Moldova State University (MSU) and “Ion Creangă” State Pedagogical University (UPSC), the Ministry of Education and Research announced the expansion of the dual education model starting with the 2025–2026 academic year; however, the exact specialties have not yet been officially published.

The expansion of dual higher education also requires the consolidation of the legislative and institutional framework necessary for the efficient functioning of this educational model. An important step in this direction was the approval by the Government of the Republic of Moldova of Government Decision No. 660 of September 25, 2024, through which the “Regulation on the organization and implementation of dual education within bachelor’s degree studies (Cycle I)” was adopted. The Regulation establishes the normative framework for organizing dual university studies, the mechanisms of cooperation between higher education institutions and economic agents, the rights and obligations of the parties involved, as well as the modalities for conducting practical activities within partner companies.

The document regulates the development of distinct curricula for the dual education format, the distribution of theoretical and practical training periods, the assessment of competencies acquired by students, and the direct involvement of employers in the educational process. Another important element provided by the Regulation is the possibility of adapting study programs to the real needs of the labor market and to the specific requirements of partner companies.

For example, the distribution of study activities within the traditional and dual education models at Academy of Economic Studies of Moldova was systematized by the author in the following table, based on the academic years 2022–2025. The comparative analysis highlights the differences between the conventional university education model, predominantly focused on theoretical instruction, and the dual education model, which integrates a significantly larger share of practical training carried out within partner companies (Guşuvati & Hăbăşescu, 2022). This comparison allows for a clearer understanding of the structural changes introduced through dual higher education and emphasizes its orientation toward the development of professional competencies and labor market integration.

Table 3. Comparative Analysis of the Distribution of Study Time in the Traditional and Dual Education Models within ASEM

Indicator	Traditional ASEM Model	Dual ASEM Model
Total study hours	5400 hours	5400 hours
Number of credits	180 ECTS	180 ECTS
Share of theoretical training	90%	60%
Share of practical training	10%	40%
Weeks dedicated to theoretical studies	97 weeks	flexible university–company distribution
Learning process	76 weeks	carried out both at the university and within the company
Knowledge assessment	21 weeks	academic and practical assessment
Practical training weeks	11 weeks	practice continuously integrated throughout the studies
Internship practice	4 weeks	carried out within the partner company
Bachelor’s practice	7 weeks	integrated into continuous practical activity
Place of practical training	mainly at the end of studies	throughout the entire study period
Employer involvement	Limited	direct and continuous
Student status	Student	student and active participant within the company
Remuneration for practical activity	generally absent	students receive financial remuneration

Source: developed based on the data presented in Guşuvati, A., & Hăbăşescu, M. (2022). Dual education – A premise for increasing the competitiveness of future economists. <https://doi.org/10.53486/icspm2022.14>

Based on the data presented in the table, the author considers that the traditional model of organizing university studies within Academy of Economic Studies of Moldova is predominantly focused on theoretical training, allocating a relatively limited amount of time to practical activities. In contrast, the dual education model proposes a more balanced distribution of study time by increasing the share of practical training carried out within partner companies. This approach contributes to the development of professional competencies, the strengthening of practical experience, and the facilitation of students’ integration into the labor market. At the same time, the direct involvement of employers in the educational process allows academic training to be adapted to the real requirements of the business environment and increases the competitiveness of future graduates.

In parallel, the recent amendments to the Education Code and the approval of complementary regulations by the Ministry of Education and Research have provided universities with the opportunity to develop flexible and interdisciplinary dual programs elaborated in cooperation with the business environment. Under these conditions, dual education is beginning to be perceived not only as an educational alternative, but also as a strategic instrument for human capital development and for increasing the competitiveness of the national economy.

The author aims to highlight an important aspect regarding the implementation process of dual higher education in the Republic of Moldova. Beginning with the 2025–2026 academic year, the Ministry of Education and Research introduced changes related to the distribution of study time and to the starting point of direct collaboration between students and partner companies. According to the new provisions, the practical activities specific to dual education will begin only from the third semester of studies.

The author considers that this decision may reduce the efficiency of students' integration into the dual education system and may create conditions that encourage the abandonment of this form of study. During the first academic year, students do not benefit from direct interaction with the professional environment and economic partners, which may decrease their initial motivation and interest in the dual program. In the absence of early practical involvement, there is a risk that some students may choose the traditional form of education or completely withdraw from the dual program.

Practical experience demonstrates that some students identify other employment opportunities during this period, often considered more attractive from a financial perspective, even if they are not directly related to their field of professional training. Furthermore, postponing the beginning of practical activities may lead to a decline in enthusiasm and in the sense of belonging to the partner company, elements that are essential for the success of the dual education model.

Another possible consequence is the reduction of students' responsibility and involvement in the educational process during the first semesters of study. Without direct exposure to the professional environment and without understanding the practical applicability of the subjects studied, students may develop a less responsible attitude toward academic tasks. This may later be reflected in their professional activity within partner companies through difficulties in adapting to organizational discipline, respecting deadlines, and carrying out assigned responsibilities.

In addition, delaying the start of dual practical training may negatively affect the gradual development of professional competencies and the establishment of a trust-based relationship between students and employers. Partner companies are interested not only in developing technical skills, but also in progressively integrating students into the organizational culture and internal processes of the company. Under these circumstances, reducing the effective period of collaboration between students and companies may limit the efficiency of professional training and the employer's ability to evaluate and prepare future specialists over the long term.

The involvement of students in practical activities from the first semesters of study could contribute to strengthening the connection between academic training and professional experience, increasing employability, and developing more effective cooperation between universities and the business environment. At the same time, early practical integration may support the continuity of students' participation in dual programs and reduce the risk of abandoning this form of education.

"Based on shared interests and accountability in the process of developing human capital, the dual education model encourages the establishment of a long-lasting collaboration between the corporate environment and the educational system. Dual education enhances graduates' competitiveness, helps them integrate into the workforce, and supports to the development of professional abilities by fusing theoretical instruction with real-world experience gained in businesses. Employers' direct involvement in the educational process also helps to close the gap between academic training and the demands of the business world by allowing study programs to be tailored to the actual needs of the economy." (Guşuati & Hăbăşescu, 2022).

The implementation of dual higher education in the Republic of Moldova can be considered a strategic educational reform aimed at creating a more flexible, competitive, and labor market-oriented university system, closely aligned with the real needs of the national economy. Although the system is still in a stage of consolidation and expansion, the preliminary results and the interest demonstrated by both universities and economic agents confirm the significant potential of this professional training model. In the long term, the expansion of partnerships between universities and companies may

contribute to increasing economic competitiveness, developing qualified human capital, and reducing the migration of young labor force from the Republic of Moldova.

In the long term, the sustainability and efficiency of dual higher education will depend on the continuous consolidation of the legislative framework, the diversification of dual study fields, and the maintenance of an active dialogue between universities, public authorities, and the business environment. Under these conditions, the dual education model has the potential to become one of the main pillars of the modernization of the higher education system and of the sustainable economic development of the Republic of Moldova.

Conclusions

According to the author, the research results confirm that the implementation of dual higher education in the Republic of Moldova represents an important stage in the modernization of the national higher education system and in strengthening the relationship between universities and the labor market. The analysis of the institutional, legislative, and practical framework demonstrates that the dual education model contributes to the development of professional competencies, facilitates graduates' integration into employment, and supports the creation of sustainable partnerships between higher education institutions and the business sector.

The author highlights the novelty of extending the dual education model from vocational technical education to higher education institutions beginning with the 2022–2023 academic year through the implementation of pilot programs within the Academy of Economic Studies of Moldova, the Technical University of Moldova, and the Free International University of Moldova. According to the author, the obtained results indicate increasing interest from employers in participating directly in the educational process and confirm the capacity of the dual system to adapt academic training to the real needs of the economy.

At the same time, the comparative analysis between the traditional and dual education models within ASEM demonstrates that increasing the share of practical training and the direct involvement of partner companies contribute to improving students' employability and professional competitiveness. An original aspect emphasized in the research concerns the critical analysis of the recent changes introduced regarding the postponement of practical dual activities until the third semester of studies. The author believes that this decision may reduce students' motivation and continuity within dual programs and may limit the efficiency of professional integration.

The research also reveals several limitations of the current stage of implementation, including the limited number of universities involved, the reduced diversity of dual study programs, and the still developing legislative and institutional framework. According to the author, another limitation derives from the relatively recent implementation period of dual higher education, which does not yet allow for a comprehensive long-term evaluation of graduates' professional performance and career development.

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