

The Impact of Public Expenditure on the Quality of Higher Education in Public Universities During the period 2000-2024

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Abstract— Educational institutions, especially public universities, are the main pillar of any sustainable development process, as they are responsible for graduating human competencies capable of driving the economy and society, and to ensure that these universities play their role to the fullest, the issue of funding becomes a pivotal issue, as public expenditure is the main source of support for the budgets of public universities. Economists agree that an adequate and effectively targeted level of spending is essential to achieving the quality of higher education. This can be measured by multiple indicators, including the quality of the curriculum and the efficiency of the faculty members, the modernity of the infrastructure and laboratories, the quality of scientific research outputs, and the alignment of graduates with the labor market. In Syria, public universities are increasingly challenging under the current economic conditions, putting significant pressure on available resources. In this context, the question of whether current public spending mechanisms can actually translate financial allocations into tangible improvements in the quality of higher education. Does the volume of spending itself improve quality? Or is the efficiency of allocating this expenditure the most important variable.

Keywords— Public Expenditure, Higher Education Quality, Public Universities, Education Financing, Student Expenditure, Educational Outcomes, Syria.

I. INTRODUCTION

The study will include two topics, the first includes the theoretical framework of the study, which includes the study of the relationship between public expenditure on higher education and indicators of the quality of higher education, as dealt with by some applied studies and researches, in addition to studying the development of public expenditure on higher education in Syria and the study of the most important indicators of higher education quality. The second topic includes a study of the temporal correlation of the volume of public expenditure on higher education and the development of higher education quality indicators, using statistical analysis. Descriptive and regression analysis.

1.1 Significance of the Study

The importance of this research stems from the fact that it deals with one of the most important economic

and social issues affecting the future of Syria, which is the relationship between the financial resources allocated to higher education and the quality of educational outcomes, and this research will try to provide an analytical study of the two variables of public expenditure (investment and current) and its relationship with the quality of higher education within the institutional context of Syrian public universities.

It helps assess the effectiveness of existing funding mechanisms and how they affect quality standards (e.g., infrastructure, research, staff-to-student ratio), and will make specific recommendations for restructuring expenditures to maximize its positive impact on quality beyond simply increasing absolute spending (Barr, 2004).

1.2 Research Objectives

This study aims to provide a descriptive-analytical study of the quality of higher education in Syria and to study and analyze the relationship between the size and structure of public expenditure directed to Syrian public universities and the quality of higher education provided by these universities during the period 2000-2024.

1.3 Research Problem

The quality of higher education in public universities is an important issue, especially in light of the economic and social challenges posed by the need for the optimal investment of available resources. Since public expenditure is the vital artery for the nutrition of these institutions, it becomes necessary to assess the effectiveness of this expenditure in setting the desired goals. What is the impact of the size and structure of public expenditure directed to Syrian public universities on the quality of higher education in them?

1.4 Research Hypothesis

The research is based on the hypothesis that there is a statistically significant effect of public expenditure in Syrian public universities on the quality of higher education in them during the period studied.

1.5 Methodology and Study Scope

This research is based on the descriptive-analytical approach supported by economic measurement methods. This aims to study the relationship between public expenditure and the quality of higher education in Syrian public universities during the period 2000-2024.

1.6 Literature Review

- 1- A study entitled (The Phenomenon of Scientific and Knowledge Investment and its Relationship to the Quality of Higher Education in Iraq) - Sanaa Abdul Latif Khudair Jaber Al-Asadi (University of Basra) - Journal of Humanities and Natural Sciences - 2024.

The researcher relied on the analytical inductive approach of the field reality, with the analysis of the strategies and legislation regulating higher education (public and private) in Iraq, the study focused on that higher education is no longer just a consumer service, but rather a strategic investment in human capital that aims to graduate competencies capable of facing financial and political crises, and the study emphasized that development is not achieved simply by spending or quantitative expansion, but by the existence of a

unified legal and administrative system and an independent supervisory system that ensures the quality of educational outcomes. The study warned that higher education should become a "purely profitable" goal at the expense of solid quality, and recommended that inputs (spending and investment) should be linked to outputs (labor market and academic quality).

- 2- A study entitled (The Role of Education in Promoting the Elements of Economic Development, Journal of Humanities and Natural Sciences), Zainab Ismail Al-Ashaibat, 3(7), Jordan, (2022).

The study dealt with the role of the educational system as a key pillar in promoting economic development and sustainable growth. The study aimed to clarify the correlation between investment in human capital and increasing production rates and national income. The study concluded with a set of fundamental findings, most notably that education goes beyond being a social service to become a long-term economic investment that contributes to reducing poverty and unemployment rates, and that the success of the "Asian Tigers" experiments was mainly based on the development of vocational and technical education and linking the educational outcomes to the requirements of the global labor market. The study recommended the need to adopt the Asian model in the development of educational policies, considering the teacher as the first driver of economic development.

- 3- 3-A study entitled (The Reality of the Higher Education and Scientific Research Sector in the Arab Countries) - Mohamed Mediani, Fatima Al-Zahra - Adrar University - Istiqlal University Journal for Research - Algeria - 2018.

The study deals with the subject of higher education in the Arab world, in an attempt to assess its reality and diagnose the weaknesses that hinder it from performing its role, through a reading of the indicators related to education and its rankings according to the Global Competitiveness Index for the year 2016-2017 issued by the World Economic Forum. The study concluded that the weak competitiveness of the higher education sector in the Arab countries necessitates the need to reform education in general and higher education and scientific research in particular, in light of its low outputs, the widespread unemployment among learners due to the lack of labor markets for their scientific specializations, and the persistence of high rates of illiteracy in many Arab countries.

The current study builds on previous research by examining public expenditure as a central explanatory variable and by focusing specifically on Syrian public universities during 2000–2024. While earlier studies emphasize higher education as an investment in human

capital and highlight regional challenges related to quality, competitiveness, and labor-market alignment, the present analysis concentrates on whether the volume and composition of government expenditure are associated with measurable quality indicators in a context of prolonged economic and institutional pressure.

II. PUBLIC EXPENDITURE ON HIGHER EDUCATION IN SYRIA

Public spending on university education is one of the most important fiscal policy tools to stimulate economic growth, as it contributes to building human capital and promoting social justice through the provision of inclusive educational opportunities.

Figure 1 indicates that there is a significant structural disparity in the distribution of the student mass between public and private education: while the percentage of students in public universities ranged between 65% and 67%, the percentage of students in private universities was limited to between 4% and 10%, with the exception of a sharp decline gap (to 1% in the years between 2013 and 2017). It also highlights the vital role of alternative modes of education (virtual and open), as digitally open education has consistently outperformed the private university sector. The data confirm that this education system, led by the public sector, was able to increase its capacity to reach its peak in 2022, indicating that educational institutions are responding to the growing demand for university education despite the surrounding challenges (Statistical Groups, various years).

Table 1: Distribution of higher education students between public and private universities

Private-university student share (%)	Students in private universities	Public-university student share (%)	Students in public universities	Total undergraduate students	Year
-	-	1%	155137	155137	2000
-	-	1%	172853	172853	2001
-	-	1	190750	190750	2002
-	-	1%	201689	201689	2003
-	-	1%	218071	218071	2004
-	-	59%	120007	203028	2005
3%	7029	47%	128455	270914	2006
4%	11007	45%	141310	314377	2007
2%	7510	35%	150774	436145	2008
6%	20461	93%	318581	339042	2009
5%	24573	66%	338667	515124	2010
4%	18854	66%	339852	512760	2011
4%	26901	68%	409880	603511	2012
2%	12206	72%	423000	589441	2013
1%	7161	67%	480187	711774	2014
1%	7936	65%	462393	710204	2015
4%	23189	68%	437744	639559	2016
1%	9286	67%	421866	631949	2017
6%	41560	65%	440362	674828	2018
6%	37668	65%	415070	641156	2019
7%	48717	64%	445689	694290	2020
8%	57810	67%	479168	715722	2021
10%	72835	66%	482580	725774	2022

Source: Statistical Collections, General Budgets for the Years of Study and Percentages from the researchers' calculations.

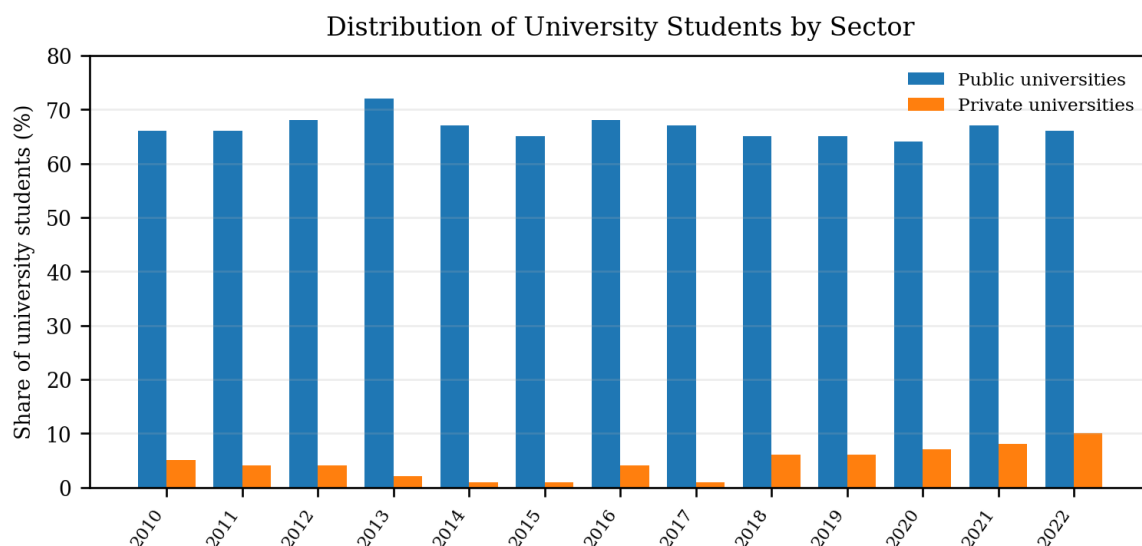


Figure 1: Distribution of students in the university learning stage between public and private universities

Source: Table (1).

Public spending is not just numbers, but rather the tool that ensures the continuity of education as a social service. The quantitative dominance of public universities described above is due to the strategic role played by public expenditure in the higher education sector, where government investment is seen as the primary guarantor of social justice and equal opportunities. The continued growth of the student population to 482,000 reflects the State's commitment to fund academic infrastructure, cover operational expenses, and support teaching staff, thereby reducing the financial burden on families. This expenditure directly contributes to the enhancement of human capital, as it allows The state has the right to direct specializations in line with development plans, which the private sector cannot do on its own due to its connection to profitability calculations and narrow economic feasibility.

Government spending prevents university education from being confined to the affluent classes, making it an engine of social mobility. Government spending also ensures a crisis response (this explains the data between 2013-2017); in uncertain times, the private sector withdraws or its contribution shrinks, while public spending remains the "safety valve" that prevents the collapse of the education system. It also contributes to the development of the capacity of the student body, as the increase in the number of students (reaching 482 thousand) would not have been achieved without the injection of public investments in the construction of new faculties or the expansion of existing ones.

2.1 Volume of Public Expenditure on Higher Education

Public expenditure to GDP and budget ratios are the benchmark indicators for measuring the country's

commitment to the development of the higher education sector, and its position among the strategic priorities of the macroeconomy (Johnstone & Marcucci, 2010).

Figure (2) shows the evolution of public expenditure directed to the higher education sector in the Syrian economy during the period (2000-2024), as a percentage of GDP and the total public budget. The data reveal a steady growth in the absolute volume of expenditure, which is offset by a state of relative stability in distribution ratios, as public expenditure on university education maintained a stable share within the public budget that ranged between 3% and 4% In most years of schooling.

This percentage reflects a direct correlation between the growth of the public budget and the allocations allocated to higher education, suggesting that the expansion of public government spending has been accompanied by a similar expansion in support for university institutions.

At the level of macroeconomic indicators, the results showed that the percentage of public expenditure on higher education remained stable at the level of 1% of GDP in most of the years of the period studied, with slight increases to reach 2% in specific years. This sustainability in proportions confirms that the pace of growth in spending on this strategic sector has been in parallel with the pace of GDP growth, which reflects the commitment of fiscal policy to maintain a constant relative weight of higher education within economic activity macro, despite the changes that may occur in the structure of the national economy during the study period (Statistical Groups, various years; State General Budgets, various years).

Table 2: Studying the Percentage of Public Expenditure on Higher Education as a Percentage of GDP and Public Budget

(Figures are estimated at one million SYP)

Higher-education expenditure / general budget (%)	Higher-education expenditure / GDP (%)	Public expenditure on university education	General budget	Gross domestic product (GDP)	Year
3	1	10	275	904	2000
3	1	9	322	950	2001
3	1	11	356	1006	2002
4	2	16	420	1017	2003
4	2	17	450	1089	2004
3	1	16	460	1156	2005
4	1	18	495	1215	2006
4	2	21	588	1284	2007
4	2	23	600	1342	2008
4	2	25	685	1421	2009
4	1	29	754	2834	2010
4	1	32	835	3252	2011
3	1	35	1326	3024	2012
2	1	33	1383	2973	2013
3	1	42	1390	3612	2014
3	1	47	1554	4783	2015
3	1	61	1980	6128	2016
4	1	85	2260	8348	2017
3	1	100	3187	9580	2018
3	1	125	3882	11620	2019
3	1	137	4000	18646	2020
3	1	217	8500	41455	2021
3	0.5	345	13325	88590	2022
3		498	16550	-	2023
4		1500	35500	-	2024

Source: Syrian Statistical Groups and the Syrian General Budget during the Study Years, and the percentages from the researchers' calculations.

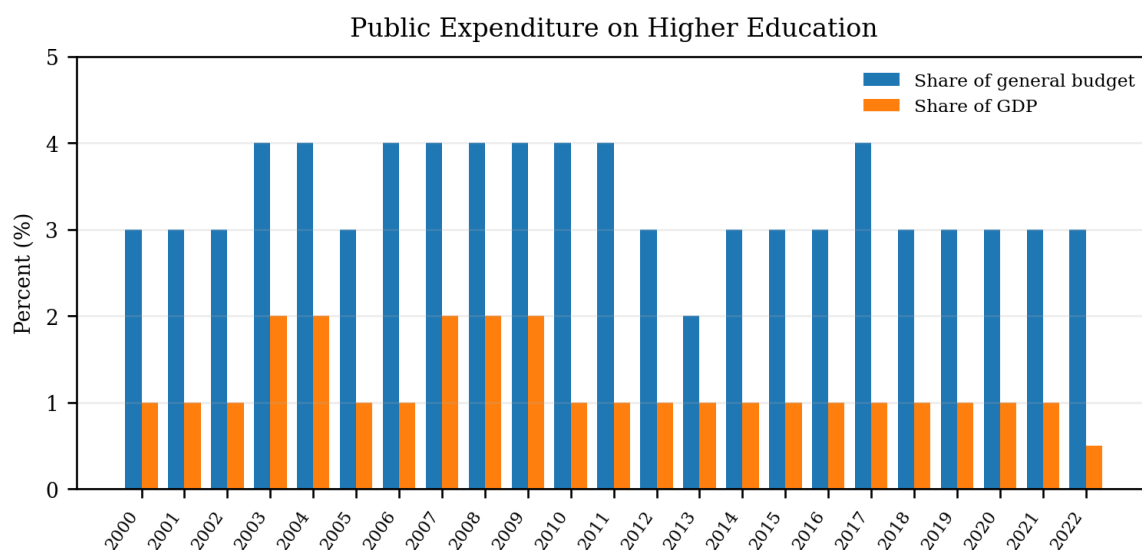


Figure 2: The percentage of public expenditure on higher education as a measure of GDP and the general budget
Source: Table (2).

The average public expenditure on higher education in the Syrian economy (1% of GDP) is close to the OECD average of about 1.5% (OECD, Education at a Glance), but it is still below the ambitious criteria set by UNESCO's Education 2030 Framework, which recommends allocating between 4% and 6% of GDP to the total education sector (UNESCO, Education 2030 Framework Report).

While in countries (such as Egypt 2.1% of the GDP for higher education in the 2025/2026 budget) (Egyptian Ministry of Finance, 2024/2025) and far from other countries such as Saudi Arabia (16% of the GDP of higher education in the 2025/2026 budget) (Saudi Ministry of Finance, 2024-2025) is close to the high global standards, we find that the relative stability

in the Syrian case is at the level of 1% It reflects the resilience of government funding despite exceptional circumstances.

However, the stable share of higher education in the public budget at 3-4% indicates a gap when compared to other Arab countries that allocate between 10% and 15% of their budgets to education, putting increasing pressure on public educational institutions to cope with the growing number of students and meet academic quality requirements. Studies indicate that the larger and more diverse the state's revenues, the more it can achieve its goals, to develop and cover its public expenditures, including spending on education, meaning that public revenues are an important determinant of expenditure on education.

2.2 Distribution between Current and Investment Expenditure

While current expenditure ensures the continuity of the teaching and operational process, investment expenditure is the main driver of quality raising, expansion of capacity, and the development of technological infrastructures of universities.

Figure 3 shows the nature of the distribution of funds in the higher education sector between current

(operational) expenditure and investment expenditure (capital). The data show that current expenditure accounted for the largest mass of total expenditure with a stabilization rate ranging between 72% and 80% in most of the study years. This percentage recorded an exceptional increase, reaching a peak between 87% and 90% During the period (2013-2015), which reflects the shift of fiscal policy towards "current management" and securing urgent operational requirements at the expense of development plans. On the other hand, investment spending, which is directed at the establishment of new projects and the expansion of infrastructure and financed from the universities' own resources, has witnessed sharp fluctuations, reflecting the surrounding economic conditions, after recording historically high levels of (50-53%) in 2003-2004, it has declined sharply to reach its lowest levels of 10% in the period (2013-2015). This sharp decline is an indication of the slowdown in construction expansion projects and the freeze of technical modernization processes, before beginning to gradually recover after 2015. This indicates a return of relative interest in the development of university assets.

Table 3: Distribution of Public Expenditure on Higher Education between Current and Investment Expenditure

Student's share of investment spending	Students in public universities	Investment expenditure share (%)	Investment spending	Current expenditure share (%)	Current spending	Public expenditure on higher education	Year
-	155137	-	-	-	-	1	2000
-	172853	-	-	-	-	8	2001
-	190750	-	-	-	-	11	2002
40	201689	%50	8	%50	8	16	2003
41	218071	%53	9	%47	8	17	2004
58	120007	%44	7	%57	9	16	2005
62	128455	%44	8	%61	11	18	2006
57	141310	%38	8	%62	13	21	2007
46	150774	%30	7	%65	15	23	2008
38	318581	%45	12	%56	15	27	2009
27	338667	%31	9	%69	20	29	2010
26	339852	%28	9	%72	23	32	2011
20	409880	%23	8	%77	27	35	2012
9	423000	%12	4	%88	29	33	2013
8	480187	%10	4	%90	38	42	2014
13	462393	%13	6	%87	41	47	2015
27	437744	%20	12	%80	49	61	2016
47	421866	%24	20	%76	65	85	2017
50	440362	%22	22	%78	78	100	2018
84	415070	%28	35	%72	90	125	2019
65	445689	%21	29	%79	108	137	2020
98	479168	%22	47	%78	170	217	2021
149	482580	%21	72	%79	273	345	2022
-	-	%23	115	%77	384	498	2023
-	-	%24	365	%76	1135	1500	2024

Source: Statistical Collections, General Budgets for the Years of Study and Percentages from the researchers' calculations. (Figures are estimated at one billion SYP)

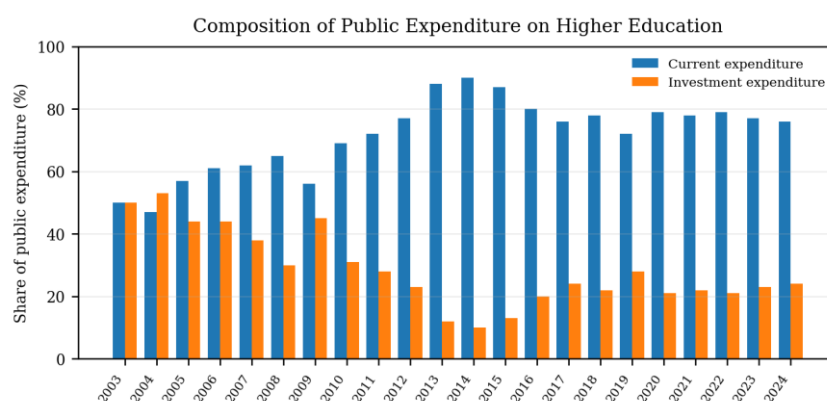


Figure 3: Distribution of Public Expenditure on Higher Education between Current Expenditure and Investment Expenditure

Source: Table 3.

The structural focus on the current side (salaries, wages, and administrative expenses) versus the decline in investment spending carries important implications, as this indicates the priority of providing educational services at a minimum, with the possibility that the quality of the educational process and the efficiency of its outputs will be affected as a result of the weak investment in laboratories, modern technologies, and buildings. This fluctuation is directly reflected on the "student share of investment expenditure", which poses challenges to keeping pace with international academic standards in modernization and development.

Figure 4 reflects the evolution of the student's share of investment expenditure in the higher education sector, which is an essential indicator for measuring the adequacy of funding directed to the development of the physical university environment and learning techniques for each individual student. The data reveal a significant decline in the share of students in capital investments during the school years (and it should be noted that the real value of this share has also been affected by inflation rates and changes in purchasing power, which makes the decline in material

services more profound than the figures show). This can be explained by:

- **The gap between funding and student growth:** Despite the absolute increase in education budgets, the accelerated growth in student numbers (nearly half a million students in 2022) has eroded per capita investment spending. This means that the ability to provide modern classrooms, laboratories, and libraries for each student has declined by varying percentages.
- **The impact of investment fluctuations:** The sharp decline in the share of students is evident in the period (2013-2015), coinciding with the decrease in the percentage of total investment expenditure to 10%. This decline reflects severe pressure on existing infrastructure, as available resources are being directed to operating existing facilities rather than expanding the construction of new facilities to serve the growing numbers

Figure 4: Student's share of public investment expenditure on higher education

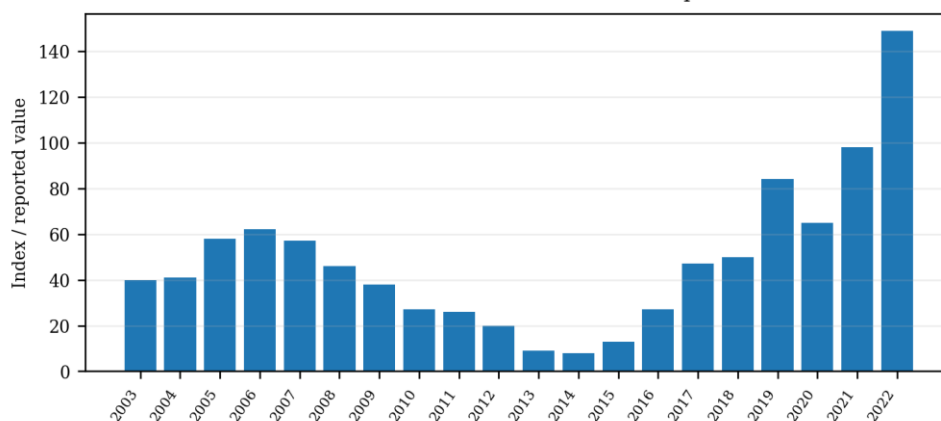


Figure 3: Distribution of Public Expenditure on Higher Education between Current Expenditure and Investment Expenditure Source: Table (3).

The decrease in the share of student investment expenditure has a direct impact on the efficiency of educational outcomes, as it necessarily leads to an increase in the density of students in the classroom, the obsolescence of laboratory equipment, and limited access to modern educational aids. This poses the challenge of maintaining academic accreditation standards in light of the limited investment resources allocated to each student.

2.3 Student's Share of Public Expenditure on Higher Education

The Student Share of Public Expenditure on Higher Education Index is the most accurate measure of translating fiscal policies into reality, as it not only reflects the size of budgets allocated, but also effectively determines each individual's share of educational resources, academic services, and available infrastructure, making it a crucial criterion for assessing the quality of education and the efficiency of outputs.

Figure (5) shows the evolution of the student's share of total public expenditure on university education, an

indicator that witnessed varying fluctuations during the period (2000-2015) before heading towards a gradual nominal rise after 2015. Despite the remarkable digital increase in the student share from 56,000 SYP in 2010 to 475,000 SYP in 2022, this growth is academically classified as "phantom growth", as it is a result of severe inflationary pressures and the decline in the purchasing power of the local currency, and not a reflection of a real improvement in the quality of educational services or university equipment. This indicator is determined based on the interaction between the two variables:

- **The volume of public expenditure:** which recorded a significant growth, especially after 2018, which pushed the nominal figure of the student share upwards.
- **Student Flows:** Public universities witnessed a steady increase in the number of enrollees after 2018, which constituted backward pressure that led to a reduction in the real value of what is spent per capita, as financial allocations did not grow at the same pace as the student explosion.

Table 4: Student's share of public expenditure on higher education

Student's share of public expenditure	Students in public universities	Public expenditure on higher education (SYP billion)	Year
46	155137	1	2000
46	-	-	2001
58	190750	11	2002
79	201689	16	2003
78	218071	17	2004
133	120007	16	2005
140	128455	18	2006
149	141310	21	2007
153	150774	23	2008
78	-	25	2009
86	338667	29	2010
94	339852	32	2011
85	409880	35	2012
78	423000	33	2013
87	480187	42	2014
102	462393	47	2015
139	437744	61	2016
202	421866	85	2017
227	440362	100	2018
301	415070	125	2019
307	445689	137	2020
453	479168	217	2021
715	482580	345	2022

Source: Statistical Collections, General Budgets for the Years of Study and Percentages from the researchers' calculations.

The seriousness of this decline is evident when assessing the share of students in dollars and comparing it to international standards, where reports indicate that the student share has declined from about \$8,000 in 2010 to about \$500 today (United Nations & World Bank, various reports). These figures reveal a huge funding gap when compared to countries that

prioritize higher education, with some countries spending as low as \$15,000 per student. This sharp decline in internationally rated per capita spending poses serious challenges to the ability of universities to maintain standards of quality, academic accreditation and the development of scientific research.

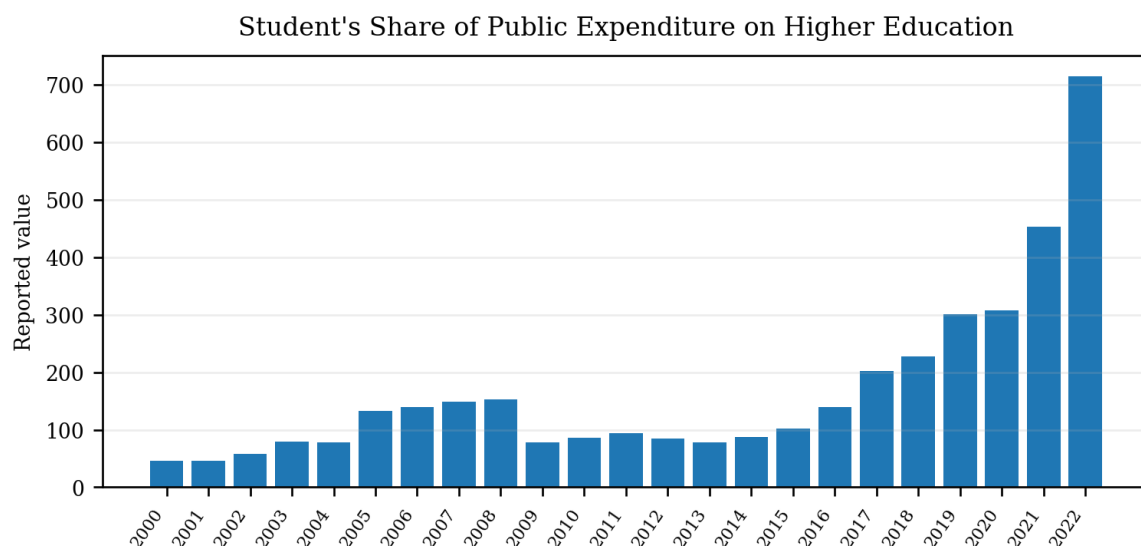


Figure 5: Student's share of public expenditure on higher education

Source: Table 4.

The Student Share Index reveals a deep gap between nominal digital growth and the real funding reality; while the figures in Syrian pounds suggest an increase in spending, its evaluation in dollars proves a sharp decline that puts the Syrian student's share at low levels compared to global averages. This real decline in the per capita share, resulting from inflationary pressures and the increase in the number of students, poses serious challenges to the quality of the educational process, as it limits the ability of universities to modernize their laboratories, provide contemporary knowledge resources, and develop scientific research. Accordingly, The challenge is no longer just to accommodate students, but to find funding mechanisms that ensure that the true value of spending is maintained to ensure competitively efficient learning outcomes.

The Syrian higher education system is under dual pressures: the explosion of students on the one hand, and the erosion of the real value of spending as a result of inflation on the other. Despite the structural resilience of the public sector, which still accommodates more than 70% of students, the shift of the spending compass towards the "current side" by 90% during the crisis has led to a decline in capital investment spending, causing the infrastructure and laboratories to become obsolete. The decline in the real share of student expenditure (in dollar terms) to very low levels compared to global standards foreshadows a qualitative gap that may affect the competitiveness of graduates in the international labor market. Accordingly, the challenge is no longer just "providing a university seat" but also "adequate funding" needed to ensure the quality of the educational process. These findings necessitate the search for innovative funding models that support the public budget and reactivate the investment role in universities to ensure that higher education outcomes are restored to their efficiency and excellence.

III. HIGHER EDUCATION QUALITY INDICATORS

The quality of university education represents the pillar by which the efficiency of educational systems and their ability to achieve sustainable development is measured, and it is a complex concept that is not limited to the final outputs, but also extends to the comprehensiveness of educational processes and inputs. This quality is embodied through a set of normative indicators that act as quantitative and qualitative measurement tools, most notably input indicators (such as the adequacy of public funding, the development of infrastructure and laboratories), indicators of the educational process (such as the ratio of professors to students and innovative teaching methods), and output indicators that measure the graduates' skills and their alignment with the requirements of the global labor market. In light of the reliance of public universities mainly on government funding, it is important to study the correlation between the volume of public expenditure and the improvement of these indicators, as expenditure is seen not as a financial burden, but as a strategic investment aimed at raising the efficiency of academic performance and ensuring institutional excellence (Marginson, 2016).

3.1 Labor-Market and Student Outcome Indicators

University education outcomes represent the ultimate goal and strategic goal of the process of investing in human capital, as aligning these outputs with the changing requirements of the labor market is the true measure of the quality and external efficiency of education. These outputs are not limited to the annual numbers of graduates, but also extend to qualitative performance indicators, such as employment rates in relevant disciplines, the time it takes to get the first job, and the extent to which graduates possess the technical skills required by employers. In the context of public

universities, the challenge is how to employ public spending to reduce the structural gap between academic curricula and the actual needs of the national economy, making employability an essential indicator of judging the feasibility of government spending and its ability to produce human resources that contribute effectively to economic development.

3.1.1 Graduate Employment Rate

The employment rate of graduates is one of the most prominent qualitative indicators to measure the efficiency of university education outcomes and their ability to meet the needs of the national economy. Figure (6) shows a significant development in the percentage of workers with a university degree in the total labor force, as the steady increase in their

numbers reflects the increasing flow of academically qualified cadres into the labor market, which is a fundamental evidence of the improvement in the levels of scientific qualification of the workforce. Two main trends stand out in this context: the first is the absolute growth in the number of university students in economic activity, while the second is the remarkable relative increase recorded in 2017, where the percentage reached 14%. It should be noted that this record rise was not only due to increased employment, but also to a contraction in the total size of the labor force, which led to an inflation of the percentage of university qualifications compared to the total number of workers. This variable indicates the need to examine the relationship between the quality of public expenditure directed at education and the absorptive market capacity in light of macroeconomic fluctuations.

.Table 5: Ratio of university employees to total employees

University-educated employees / total employees (%)	Total employees	University-educated employees	Year
6	4468000	278000	2000
6	4730000	299000	2001
6	4822000	303000	2002
6	-	-	2003
6	-	-	2004
7	4693494	320331	2005
7	4859948	352498	2006
8	4945977	381271	2007
8	4847898	400010	2008
8	4999229	423913	2009
8	5054456	425076	2010
10	4949238	511270	2011
10	-	-	2012
10	-	-	2013
6	-	188434 6%	2014
7	-	178073 7%	2015
7	-	-	2016
14	3689862	546265	2017
15	3737767	563668	2018
14	3710740	536335	2019
14	4528052	152009	2020
15	4872915	748417	2021
15	4550797	673306	2022

Source: Statistical Collections, General Budgets for the Years of Study and Percentages from the researchers' calculations.

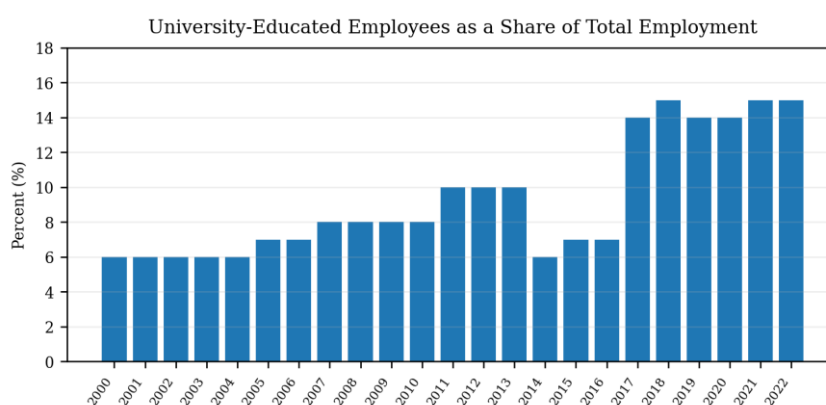


Figure 6: Ratio of university employees to total employees. Source: Table 5.

The above shows that the significant increase in the proportion of university graduates in the labor force is a positive indicator of the success of educational policies in increasing the supply of qualified human capital. However, this quantitative growth puts the decision-maker in front of a fundamental entitlement related to the efficiency of public spending, as the challenge is no longer limited to increasing the number of graduates, but also to ensure the quality of their qualification to ensure the sustainability of their

employment in a labor market characterized by contraction or structural change. The fact that the proportion of university workers reaches 14% in light of the decline in the total labor force requires that government spending be directed towards the most in-demand academic programs, to ensure that educational outcomes are transformed into a driving force for economic growth, rather than becoming a burden in the form of disguised unemployment or specializations that the market does not need.

3.1.2 Graduate Unemployment Rate

Table 6: Ratio of university unemployed to total unemployed

University-graduate unemployment share (%)	Total unemployed	Unemployed university graduates	Year
-	-	-	2000
-	-	-	2001
3	637805	20013	2002
-	-	-	2003
-	-	-	2004
5	412860	22089	2005
6	432240	25974	2006
6	454800	27943	2007
5	594496	29029	2008
8	442953	34291	2009
8	476346	406542	2010
9	865464	81326	2011
-	-	-	2012
66	-	734969	2013
77	-	632289	2014
76	-	5591003	2015
0	-	-	2016
16	663217	108715	2017
16	1621045	261016	2018
12	1685554	199357	2019
13	1198238	155155	2020
4	13662683	532712	2021
15	1413661	206905	2022

Source: Statistical Collections, General Budgets for the Years of Study and Percentages from the researchers' calculations.

The unemployment rate among graduates is a mirror that reflects the extent of the balance or gap between the outcomes of university education and the actual requirements of the labor market. Returning to Table 6, it is shown that the ratio of unemployed people from university degree holders to total unemployed has undergone sharp fluctuations that reflect fundamental changes in the unemployment structure. In the period (2002-2011), the ratio stabilized at around 8%, suggesting that unemployment at that point was mainly concentrated among the less qualified groups, while graduates had easier access to the labor market. However, the landscape witnessed a shift during the period (2013-2015), where the percentage jumped to between 66% and 77%, and this sharp increase reflects a serious phenomenon of the 'concentration of unemployment' among university students, where more than two-thirds of the unemployed are academic staff, raising urgent questions about the quality of

educational outcomes or the ability of the economy to absorb this type of discipline. By 2017, the percentage began to decline significantly, stabilizing at levels below 20%. This may be due to improvements in employment policies, adjustments in the structure of public spending for education and training, or perhaps a change in students' orientation towards more in-demand majors in the market.

This sharp disparity in graduate unemployment rates underscores that simply raising public spending on education is not enough in itself, but must be accompanied by mechanisms to ensure the 'quality of outputs' so that university cadres can transform from a burden on unemployment lists into an effective workforce that contributes to economic growth.

3.1.3 Graduation Rate

The graduation rate is an essential indicator of the internal efficiency of the university system, as it

reflects the ability of educational institutions to pass students through the different stages of study within the specified time periods. Figure (7) shows the difference in academic achievement levels between the undergraduate and postgraduate stages. At the university degree level, it appears that the ratio of graduates to total enrolled students did not exceed the threshold of 15% only in the period (2005-2009), a rise that was accompanied by a relative decline in the number of enrollees. In the rest of the school years, the percentage was recorded at low levels ranging between 7% and 9%, which is a negative indicator that may be attributed to the actual length of study, the students' academic failure, or as a result of the growth of the new student base at rates that exceed the system's

ability to graduate quickly, which necessitates Review the efficiency of expenditure directed to academic support operations. At the graduate level, the ratio stands out as a criterion for the extent to which researchers are able to complete the requirements of the dissertations. While the period (2001-2003) recorded high completion rates ranging from 35% to 40%, showing a relative speed in completing programs, in most study periods the percentage remained between 15% and 20%, this stability at low levels indicates that there are challenges and obstacles (whether funding, research, or administrative) that prevent graduate students from completing their programs in the assumed times, reflecting a waste of human and financial resources invested in the sector.

Table 7: Ratio of graduates to number of students

Postgraduate graduation rate (%)	Postgraduate graduates	Postgraduate students	Undergraduate graduation rate (%)	Undergraduate graduates	Students in public universities	Year
4	3774	100230	11	16635	155137	2000
37	3712	10020	10	16755	172853	2001
40	4169	10302	9	17462	190750	2002
36	4164	11665	10	19617	201689	2003
14	1537	11116	9	19290	218071	2004
17	2021	11775	19	22796	120007	2005
13	1715	13120	21	27534	128455	2006
8	1023	12179	17	24329	141310	2007
13	1573	12330	20	30770	150774	2008
18	2605	14217	21	65344	318581	2009
22	3776	17246	11	38559	338667	2010
21	3708	17322	11	38208	339852	2011
17	3581	20596	8	34452	409880	2012
20	4473	22453	9	37260	423000	2013
16	3893	23756	7	34261	480187	2014
17	4220	24409	7	33886	462393	2015
18	4289	24318	8	34859	437744	2016
17	4417	26181	8	35379	421866	2017
20	5719	28075	8	35519	440362	2018
18	5128	28248	8	34600	415070	2019
16	4567	28240	11	49228	445689	2020
15	4764	31111	10	46111	479168	2021
16	4793	29752	14	48468	345000	2022

Source: Statistical Collections, General Budgets for the Years of Study and Percentages from the researchers' calculations.

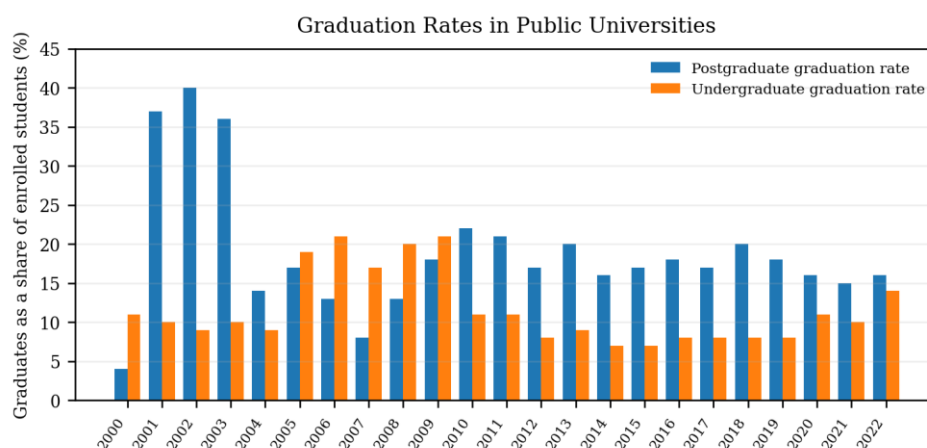


Figure 7: Ratio of graduates to number of students. Source: Table 7.

The analysis of graduation rates in both stages calls for a review of financial and educational support policies, as low percentages increase the total cost per graduate, which reduces the economic return of public expenditure on university education (Webber & Ehrenberg, 2010). When placing the graduation rate under study in the context of regional comparison with Arab university systems, qualitative gaps emerge that reflect the divergence of public expenditure policies and their impact on the quality of outputs. While the current study recorded graduation rates ranging between (7%-9%) in the bachelor's degree stages. Statistical data in the Arab Republic of Egypt (2023/2024) indicate that public and technological universities contribute about 66% of the total graduates to the labor market, with a high focus on absorbing large numbers and ensuring their flow to economic sectors (Ministry of Higher Education and Scientific Research, 2024). In Jordan, the 'External Competence' index is more prominent, with some leading universities achieving employment rates and evaluations in employers' reputation indices, placing them among the highest categories in the Arab world (91-100) in the 2025 rankings (Ministry of Higher Education and Scientific Research, 2025).

This comparison shows that the low graduation rates in the education system in question, compared to those in countries such as Egypt and Jordan, not only reflect funding challenges, but also point to the urgent need to adopt operational models that ensure that students complete their academic tracks on time, and to better align those tracks with regional standards that have become highly competitive in the Arab labor market. An analysis of output indicators (employment, unemployment, and graduation rates) shows that the external efficiency of the university education system is undergoing a critical transition that requires a reformulation of government funding policies. Despite the quantitative ability to increase the proportion of university students in the labor force, the sharp disparity in unemployment rates and the significant decline in actual graduation rates indicate that there is a 'technical and financial waste' that hinders the quality of outputs. These findings confirm that the impact of public expenditure should not only be measured by the amount allocated, but also by the extent to which such expenditure is able to transform educational inputs into outputs of added and sustainable economic value. This requires a shift from 'input-based finance' to 'performance-based and quality-based finance' to ensure that graduates' skills are aligned with the fast-paced dynamics of the local and regional labour market, and to ensure a real return on investment from public expenditure on human capital.

3.2 Scientific Research and Innovation

The Scientific Research and Innovation Index is the true mirror of the qualitative efficiency of public

universities, and the most prominent variable in determining their position within the global academic rankings. The quality of scientific research goes beyond the mere quantitative accumulation of research papers to include indicators of impact and effectiveness, such as the reference citation rate, the number of papers published in scientific journals classified within global databases such as Scopus, in addition to the ability to turn research ideas into patents and innovative products with economic value. As the country moves towards a knowledge-based economy, public spending on research and development is a critical factor in enhancing this quality, with sustainable government funding contributing to the provision of advanced laboratories, supporting technology incubators, and stimulating researchers to innovate. Therefore, measuring the quality of scientific research is inseparable from analyzing the efficiency of public spending, as it is the driving force for linking universities to the industrial and production sectors, achieving technological independence and comprehensive national development.

3.2.1 Published Research Output

The number of research papers published annually is the first quantitative indicator to measure the vitality of scientific activity within public universities and its ability to contribute to the global knowledge stock. The increase in the number of research papers issued by faculty members and researchers is directly attributable to the public spending policies that have created funds to support scientific research and allocate rewards for publication in international journals with a high impact factor. The increasing number of research papers published in global databases such as Scopus not only reflects the productive efficiency of researchers, but also indicates an improvement in the academic quality standards imposed as a condition for obtaining financial support. However, the challenge remains to balance the quantity of research (number of papers) with the applied value of these papers and the extent to which they can provide solutions to local development problems, which necessitates directing future spending towards interdisciplinary and applied research that serves industrial and service sectors. The increase in the number of papers represents a positive return on public spending, but sustaining this growth requires additional investments in research lab development and subscriptions to global digital libraries to ensure that researchers stay in touch with the latest scientific developments.

3.2.2 Patents and Innovation Outputs

Patents registered in the university's name represent the ultimate output of the innovation ecosystem and the essential indicator of the efficiency of public spending in supporting applied and technical research.

An analysis of the university's intellectual property records shows that the number of patents reflects the maturity of the partnership between academic laboratories and the industrial sectors. Patent registration is not only a means of protecting the intellectual rights of researchers, but is also a tool for measuring the 'tangible return' from the allocated scientific research budgets, as these inventions contribute to enhancing the university's own resources through Licensing and commercial investment contracts for research outputs.

However, the growth in the number of patents requires a supportive institutional environment that goes beyond direct funding, to include the establishment of Technology Transfer Offices (TTOs) and business incubators that support researchers in the 'modeling' and 'technical examination' stages. Hence, the challenge is to direct government spending towards projects with high commercial potential, to ensure that the university transforms from a mere producer of research papers to a true engine of national innovation that contributes to diversifying sources of national income.

3.2.3 Citation Impact

The evaluation of research activity moves from a quantitative measure of the number of papers to a qualitative measure of the rate of citations per research paper, which is an indicator that reflects the 'scientific impact' and the sobriety of research outputs in the global academic community. The high rate indicates that publicly funded research has a high added value, and that it is used as a primary reference by other researchers around the world, which raises the university's ranking in international quality indicators. The analysis of the citation rate reveals the efficient allocation of financial resources; increased spending on global databases and advanced laboratories contributes to the production of 'high-impact' research that attracts international attention. Strategically, focusing on improving the citation rate rather than simply increasing the number of papers ensures the sustainability of scientific quality, and shifts government funding from mere support for academic activity to an investment in the production of world-class knowledge that puts public universities on the map of international excellence. Indicators of scientific research and innovation—from the density of scientific publication to citation rates and patents—are the true measure of how well public universities have become effective centers of knowledge production. Public expenditure is the primary driver of this quality, but its impact is not achieved automatically by simply increasing financial allocations, but by the extent to which this expenditure is directed toward enhancing scientific impact and applied innovation (Williams et al., 2013).

Improving the quality of scientific research and innovation remains contingent on the ability of government spending to create a stimulating environment that links academic outcomes to sustainable development needs, ensuring the transformation of the university from a purely educational institution to a locomotive that drives an innovation-based economy.

3.3 Educational Process and Institutional Capacity

The quality of the educational process and the available resources are the main pillar of academic excellence, and it is a mirror that reflects the efficiency of public expenditure within public universities. This indicator is not limited to the availability of buildings and halls, but also extends to the quality of the integrated learning environment, starting from the criteria of academic interaction between professor and student (expressed in the ratio of students to teachers), to the up-to-date technical and information resources available. The educational process is the loop in which material and human resources are fused to produce efficient outputs, so its quality depends closely on the sustainability of government funding for laboratory modernization, curriculum development, and the provision of digital libraries. In light of contemporary challenges, the quality of resources is measured not only by their quantitative availability, but also by how effectively they are used to create an innovative learning experience that ensures the achievement of the highest standards of academic accreditation, making this indicator a decisive factor in judging the success of public investment in higher education.

3.3.1 Student–Faculty Ratio

The ratio of students to faculty members is one of the most important indicators of the quality of the educational process, as it reflects the extent to which the academic institution is able to provide an interactive environment and ensure accurate scientific follow-up for students. Figure 8 shows a sharp and worrying decline in the number of teaching staff in Syrian public universities, as the number of members decreased from 10,202 in 2010 to 8,337 members in 2022. Looking at the timeline, faculty numbers peaked in 2012 and 2013 with 11,000 members, after which a continuous downward trend began. This hemorrhage in academic staff has led to a severe imbalance in the share of students in educational care, as the percentage of students per teacher increased from 51 students per teacher in 2010 to 71 in 2015, and continued to rise to reach 87 students per teacher in 2022. This inflation in the student density within the classrooms clearly indicates the decline in the quality of education and the efficiency of its outputs, due to the inability to apply the standards of effective academic interaction. Studies indicate that this percentage reached only 9 students per teacher in Iraq, 15.4 in Lebanon, and 22 in Egypt

(Najma et al., 2019), which places Syrian universities very late compared to regional standards. This structural deterioration is mainly due to the phenomenon of forced migration of talent suffered by the Syrian economy, which has led to a huge loss of

academic human capital, which makes the reform of this indicator require exceptional public spending policies to stimulate the retention of cadres and attract new expertise

Table 8: Ratio of students to faculty members in public universities

Students per faculty member	Students in public universities	Faculty members in public universities	Year
23	155137	6823	2000
25	172853	6913	2001
28	190750	6886	2002
23	201689	8702	2003
25	218071	8702	2004
14	120007	8870	2005
15	128455	8495	2006
19	141310	7521	2007
18	150774	8340	2008
34	318581	9363	2009
33	338667	10202	2010
35	339852	9732	2011
37	409880	11054	2012
38	423000	11329	2013
45	480187	10708	2014
46	462393	9988	2015
48	437744	9213	2016
46	421866	9101	2017
51	440362	8675	2018
51	415070	8202	2019
53	445689	8333	2020
58	479168	8203	2021
58	482580	8337	2022

Source: Statistical Collections, General Budgets for the Years of Study and Percentages from the researchers' calculations.

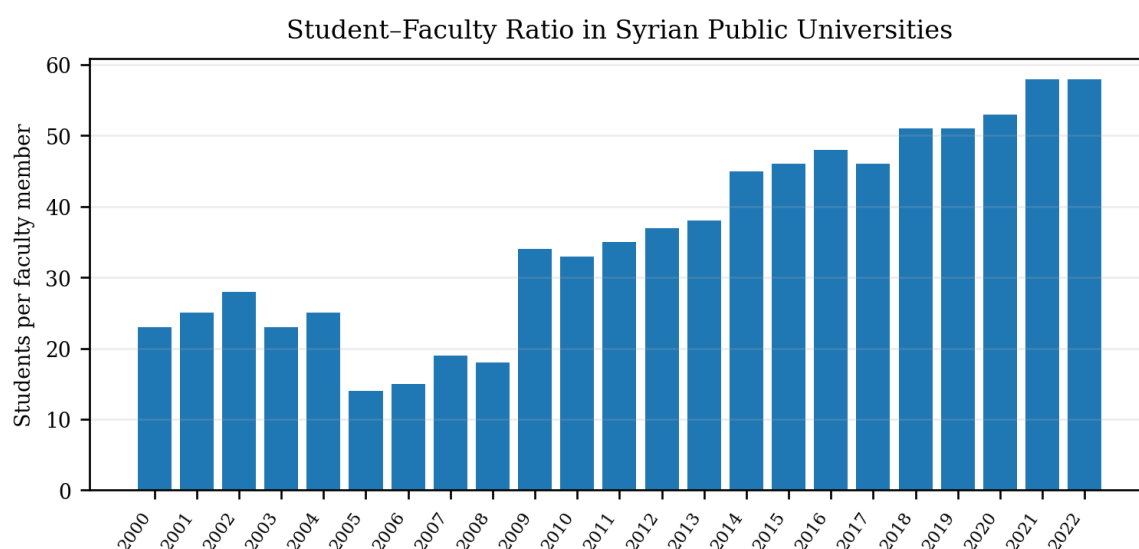


Figure 8: Ratio of Students to Faculty Members in Public Universities Source: Table 8.

The 87:1 student-teacher ratio represents an enormous strain on the educational structure, which prevents the achievement of international academic accreditation standards, and requires urgent intervention by increasing public spending directed at improving and ensuring the sustainability of the academic work environment.

3.3.2 Student Satisfaction

The student satisfaction rate represents the qualitative mirror that reflects the efficiency of the university environment, as it moves by assessing quality from rigid quantitative measures to measuring the extent to which the educational process meets the expectations and needs of learners. This indicator includes students'

evaluation of several vital axes, most notably the quality of teaching methods, the modernity of academic curricula, the adequacy of infrastructure and technical resources, and the level of administrative and support services. Analytically, student satisfaction is closely related to the volume and efficiency of public spending, as a shortage of teaching staff (which leads to an increase in student density) or a decline in the quality of laboratories and facilities necessarily leads to lower levels of public satisfaction. Therefore, tracking this index through periodic questionnaires gives decision-makers in public universities an important corrective tool that ensures that financial resources are directed towards gaps that directly affect the educational experience of the student, which contributes to reducing the phenomenon of academic dropout and enhances the Institutional affiliation and distinguished educational attainment. Accordingly, improving student satisfaction rates is not just a service goal, but a strategic investment that ensures raising the efficiency of educational outcomes and enhancing the reputation of public universities in local and regional markets.

3.3.3 Academic Rankings

International rankings indicate that Damascus University, which is the first locally in the Arab world and 4526 globally, for the year 2018 according to the order of the Spanish website (Webometrics) (Ranking Web of Universities) and Latakia University is ranked 5336, and the University of Aleppo has fallen to the 4632nd rank, and King Saud University is the first in the Arab world and occupies the 424th position globally, followed by King Abdulaziz University, and the American University in Beirut and Cairo is ranked

fourth and fifth in the Arab world. While the ranking of Damascus University according to the ranking of the Spanish website for 2023 advanced to 3458 and the University of Latakia to 4022, while the University of Aleppo dropped to 4937 rank (Ranking Web of Universities) and within the American Uniranks ranking for 2025, Damascus University advanced 240 ranks to rank 2576 globally and the University of Aleppo ranks 5442. Syrian universities in general are still ranked behind in the world, but Damascus University is the most advanced in the global ranking.

IV. ECONOMETRIC ANALYSIS OF PUBLIC EXPENDITURE AND QUALITY

4.1 Model Specification

To examine the relationship between public expenditure and higher-education quality, the study employs multiple regression analysis.

The dependent variable (Y) is the ratio of graduates to enrolled students, used here as a selected indicator of higher-education quality rather than as a comprehensive measure. The independent variables are defined as follows:

- X₁: Ratio of students in public universities to faculty members.
- X₂: Investment expenditure (measured at current prices).
- X₃: Number of graduates.
- X₄: Student's share of investment expenditure.
- The estimated model is specified as follow

4.2 Model Estimation

The regression output is presented in Table 9.

Dependent Variable: Y				
Method: Least Squares				
Date: 04/22/24 Time: 02:08				
Sample: 2000 2022				
Included observations: 23				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	-0.245646	0.061514	-3.993329	0.0009
X2	-0.310369	0.116013	-2.675291	0.0154
X3	0.000341	3.13E-05	10.88210	0.0000
X4	0.190378	0.046758	4.071550	0.0007
C	4.823257	2.981519	1.617718	0.1231
R-squared	0.940800	Mean dependent var		11.60870
Adjusted R-squared	0.927644	S.D. dependent var		4.639153
S.E. of regression	1.247886	Akaike info criterion		3.470440
Sum squared resid	28.02997	Schwarz criterion		3.717286
Log likelihood	-34.91006	Hannan-Quinn criter.		3.532521
F-statistic	71.51336	Durbin-Watson stat		1.468900
Prob(F-statistic)	0.000000			

Source: Prepared by the researchers using EVIEWS 13.

The adjusted R^2 is 0.93, indicating that the independent variables explain approximately 93% of the variation in the dependent variable. The overall F-statistic is 71.51336 with a p-value below 0.001; therefore, the model is statistically significant at the 5% level.

4.3 Diagnostic Tests

The following diagnostic checks were applied to assess model adequacy:

- **Normality of Residuals:** Residual normality was assessed using the Jarque–Bera test. The test statistic was 1.9425 with a p-value of 0.3786. Because the p-value is greater than 0.05, the null hypothesis of normally distributed residuals is not rejected at the 5% significance level.
- **Serial Correlation Diagnostic:** The Durbin–Watson statistic was 1.469, which lies in an inconclusive range. To further assess serial correlation, the Breusch–Godfrey LM test was applied for second-order autocorrelation. The reported LM statistic was 1.835, below the stated critical value of 5.991 at the 5% significance level. On this basis, the study concludes that there is no statistically significant serial correlation in the residuals and that the ordinary least squares estimates can be interpreted within the stated model.

Following these diagnostic checks, the estimated model is interpreted as follows:

$$y = 4.82 - 0.25X_1 - 0.31X_2 + 0.0003X_3 + 0.91X_4$$

4.4 Interpretation of Estimated Coefficients

The estimated coefficients indicate that the student–faculty ratio has an inverse and statistically significant association with the selected higher-education quality indicator: a 1% increase in the ratio is associated with a 0.25% decrease in the dependent variable. Investment expenditure also shows an inverse and significant relationship, with a reported effect of 0.31%; this counterintuitive result may reflect time lags, post-2011 crisis effects, and the use of current-price expenditure under high inflation. The number of graduates has a direct and significant but very small effect, with a reported 1% increase associated with a 0.0003% increase in the quality indicator. By contrast, the student's share of investment expenditure has a direct and significant effect, with a reported 1% increase associated with a 0.91% increase in the dependent variable.

V. RESULTS

1. Institutional dominance of the public sector: The results proved the continuation of the pivotal role of public universities in absorbing

the largest mass of students by between 65% and 72%, in contrast to a modest contribution of the private sector that did not exceed 10% on average, which confirms that higher education is still managed as a public social service mainly funded by the state.

2. Stability of the relative weight of expenditure despite the crises: Financial indicators revealed relative stability in the share of higher education in the general budget (3–4%) and GDP (1%), which indicates that spending on higher education is growing steadily with the growth of the macroeconomy and the public budget, despite the exceptional circumstances that the Syrian economy has gone through.
3. Structural imbalance between current and investment spending: The results showed that expenditure was overly concentrated in the current (operational) part, which accounted for about 90% of the budget in the crisis years, which led to a sharp decline in investment spending directed at infrastructure development and technical modernization, which reflects negatively on the quality of the educational environment.
4. The erosion of the real value of the student's share: The study observed a wide gap between the "nominal" growth and the "real" growth of the student's share of spending, as despite the digital leaps in the local currency, the internationally denominated real value recorded a sharp decline from \$8,000 in 2010 to about \$500 today, as a result of runaway inflation and increasing student pressure.
5. Widening international funding gap: International comparisons have confirmed that current levels of spending are still below global standards (such as UNESCO standards), which poses real challenges to the ability of educational institutions to keep pace with global technological development and ensure the efficiency of academic outputs.
6. Low external efficiency and labor market alignment: The data showed a structural gap between university education outcomes and the needs of the economy, with a sharp concentration of unemployment among university students (reaching 77% in some periods), indicating that public spending did not succeed in converting the quantitative expansion of graduates into an added economic value, with a slight relative improvement observed after 2017.
7. Low internal efficiency (graduation rates): The results revealed a decrease in graduation rates at the bachelor's degree stage (between 7–9%), which means a prolongation of studies and a waste of invested financial and human resources, which puts Syrian universities in a laggard position when compared regionally to

countries such as Egypt and Jordan.

8. Severe bleeding in academic staff: This is the most prominent and dangerous result, as the migration of talent has led to a decline in the number of faculty in exchange for an explosion in the number of students, raising the ratio (student/teacher) to 87:1 in 2022. This ratio, which exceeds regional standards (e.g., Iraq 9:1 and Egypt 22:1) represents a fundamental obstacle to achieving quality and academic interaction.
9. The fluctuation of global competitiveness (rankings): Despite the relative improvement of Damascus University's ranking in rankings such as (Webometrics) and (Uniranks) for the year 2025 to reach 2576 globally, Syrian universities as a whole are still outside the scope of the strong Arab competition topped by Saudi universities, which confirms the need for a funding strategy that focuses on the criteria of "academic accreditation" and not only the management of the educational facility.
10. The results confirm that public expenditure on education in Syrian public universities faces the challenges of "efficiency of allocation", as while it contributes to ensuring the continuity of the educational process and providing a minimum level of scientific publication, it is still unable to bridge the gap in the shortage of human resources and improve the ranking of universities globally, which necessitates a shift towards a model of "performance-based and quality-based funding".

VI. CONCLUSION

The analysis shows that the central challenge for Syrian public universities is not simply the nominal volume of public expenditure, but the effectiveness with which limited resources are allocated and converted into educational outcomes. The predominance of current expenditure, erosion of real per-student resources, rising student-faculty ratios, and uneven graduate outcomes indicate persistent pressures on institutional quality. At the same time, the regression results suggest that the composition of expenditure and the student share of investment spending are important for understanding variation in selected quality indicators. Sustainable improvement therefore requires a gradual rebalancing toward productive investment, stronger performance monitoring, protection of academic human capital, and closer alignment between financing decisions, educational outcomes, research capacity, and labor-market needs.

VII. RECOMMENDATIONS

1. Correcting the structural imbalance in the budgets of universities: Working to increase the percentage of investment expenditure

(capital) in the budget allocated to higher education, to ensure the modernization of laboratories, libraries, and university facilities, and to overcome the stage of "current management" that drains resources in operational expenses only.

2. Diversifying funding sources (financial independence of universities): Reducing total dependence on government funding by activating universities' own resources, by expanding consultancy centers, linking scientific research to the production and industrial sectors, and establishing educational investment funds that contribute to covering the gap left by inflation.
3. Stimulating Public-Private Partnership (PPP): Encouraging the private sector to contribute to the financing of the infrastructure of public universities in exchange for operational or tax concessions, which reduces the burden on the public budget and allows to increase the percentage of the private sector's contribution to student absorption according to strict quality standards.
4. Adoption of Performance Budgeting and Programs: Moving from the traditional budgeting system to the "performance budget", so that the government funding granted to universities is linked to the extent to which they achieve quality standards, the employment rates of their graduates, and their scientific productivity, to ensure the efficiency of the allocation of limited resources. (Matveeva, 2025)
5. Protecting the student's share from monetary erosion: The need to periodically review the monetary mass allocated to the student in proportion to inflation rates and exchange rate changes, to ensure the minimum educational services that meet international standards and prevent the decline in the quality of academic qualification.
6. Developing alternative learning modes: Promoting investment in virtual and open education as tools to reduce the high investment costs of buildings and facilities, with a focus on the quality of digital content as a strategic solution to increase capacity at the lowest possible costs.
7. Restructuring public expenditure policies: Shifting from a "traditional finance" system that covers only current expenditures, to a "performance-linked finance" model, where a portion of the budget is allocated based on universities' achievement of certain levels in quality indicators (e.g., graduate employment rate, number of patents).
8. Strategy for retaining academic competencies: The need to allocate exceptional financial and academic incentives to faculty members to

reduce the phenomenon of migration, while working to reduce the ratio of (student/teacher) by expanding teaching assistant training programs and attracting immigrant expertise through virtual or partial cooperation programs, to bring the ratio closer to regional standards.

9. Enhancing alignment with the labor market: Establishing "graduate monitoring units" in each university, linking part of government funding to the extent to which specializations are aligned with the needs of the national economy, and encouraging partnership between universities and the private sector to finance training programs directed towards direct employment.
10. Stimulating applied scientific research: directing research spending towards projects that have "transformative" potential (patents), and facilitating the procedures for registering intellectual property internationally, which contributes to raising the ranking of Syrian universities globally and transforming scientific research into an independent source of income for universities.
11. Investing in digital transformation: To address the shortage of human resources, spending on "hybrid education" and digital libraries must be increased, giving students access to world-class educational resources and reducing the pressure on traditional infrastructure.
12. Striving for international academic accreditation: Developing a timetable to enable public universities to obtain international accreditation, which raises the value of Syrian university degrees and improves their ranking in rankings such as (Webometrics) and (Uniranks).

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The authors confirm that the manuscript is their original work, and if others' works are used, they are properly cited/quoted.

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