



EMPLOYMENT OUTCOMES FOR FOUR-YEAR NURSING GRADUATES IN THE STATE OF SOUTH CAROLINA

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Section I:

INTRODUCTION

Registered Nurses are the second most in-demand occupation in South Carolina.¹ Thus, it is imperative to understand the state of nursing employment and job opportunities, and the educational pipeline which provides the education and training for these crucial positions.

The goal of this publication is to examine the demographics, sector of employment, and return on investment (ROI), of graduates of the various four-year nursing programs within the state of South Carolina. This report uses four-year nursing graduate data from the South Carolina Commission on Higher Education (CHE) matched with unemployment insurance (UI) wage records collected by the South Carolina Department of Employment and Workforce (DEW) to examine several research questions:

I

WHAT IS THE RACE, SEX, AND RESIDENCY DISTRIBUTION OF THE STUDENTS FOUND IN THE DEW WAGE RECORDS COMPARED TO THOSE WHO ARE NOT FOUND? ARE THERE CERTAIN TYPES OF STUDENTS WHO ARE MORE LIKELY TO REMAIN IN THE STATE AND FIND EMPLOYMENT ONE, FIVE, AND TEN YEARS AFTER GRADUATION?

II

WHAT ARE THE MEDIAN EARNINGS FOR STUDENTS ONE, FIVE, AND TEN YEARS AFTER GRADUATION AND HOW DO THOSE EARNINGS VARY BASED ON DEMOGRAPHIC CHARACTERISTICS?

III

IN WHAT SECTORS ARE SC NURSING COLLEGE GRADUATES MOST LIKELY TO BE EMPLOYED ONE, FIVE, AND TEN YEARS AFTER GRADUATION? HOW DOES THE SECTOR OF EMPLOYMENT VARY BASED ON THE NUMBER OF YEARS AFTER GRADUATION?

IV

HOW LONG DOES IT TAKE TO RECEIVE A POSITIVE ROI ON TUITION PAID TO OBTAIN A DEGREE?

Section II:

DATA AND LIMITATIONS

Before moving into actual data analysis, we outline and detail the data set. Program and graduation data used in this report were provided by CHE. Records were limited to students who completed a bachelor's degree in nursing at a four-year public or independent institution from state fiscal year (FY) 2013 through FY2021.²

Program and graduation data used in this report were provided by colleges and universities to CHE and housed at the Revenue and Fiscal Affairs Office (RFA), which matched them with DEW State Unemployment Insurance Tax System (SUITS) wage data. SUITS wage records do not include students who work outside of the state or individuals who are self-employed, work as independent contractors, or work for the federal government or military, since these individuals are not covered by the unemployment insurance program.

¹According to data from JobsEQ

²See [Appendix A](#) for a full list of institutions.

To determine the employment status and earnings for each graduate we examined the wage records for the four quarters following their graduation date. For example, a student who graduated in the fall semester of 2015 (2015 Q4) would be matched to earnings data for the four quarters of the following year (2016 Q1, 2016 Q2, 2016 Q3, and 2016 Q4).³ First year earnings are the sum of all wages earned by the graduate in South Carolina. If an individual had less than four quarters of wages, the wages reported in the available quarters were annualized. For example, if the graduate had three quarters of wages, their total wages were divided by three and multiplied by four. The data only include only graduates who met a minimum wage threshold.⁴

Then, to calculate the ROI, we estimated out-of-pocket college tuition and compared it to earnings after graduation. A weighted average was calculated for each group of graduates, accounting for the number of graduates from each institution and tuition costs⁵ adjusted to 2023 dollars.

Within the wage analysis we present the number of potential graduates from South Carolina programs that could be found in the wage records. For example, students that graduated from a program in 2020 could be found within the one-year after graduation wage records but cannot, yet, be found within the five years after graduation wage records, as it has not been five years since they graduated. Additionally, we only include wage records up to 2023 Q4. Therefore, wage data after that time frame are not included in the analysis. For example, a student graduating in 2019 Q1 could potentially appear our data set one-year after graduation, but not five-years after graduation, as the required 2024 Q1 wage records are not included in the data set.

Additionally, it is important to note that graduates' earnings are not the only measure of how well a program is performing. Individual students' success reflects a variety of factors such as each student's background, personal career goals, and the local job market. Nevertheless, students who enter the job market upon completing their education represent an important segment of the labor force, and the information presented here can assist students, families, and policymakers as they make decisions regarding higher education.

Section III:

FOUR YEAR GRADUATES EMPLOYED IN SOUTH CAROLINA

Before moving into the analysis, here we provide a brief overview of the data. A total of 12,901 unique students graduated from South Carolina institutions of higher education with bachelor's degrees in nursing between FY2012 and FY2021. Individuals who appeared in the graduation records more than once in this time frame were noted and only their most recent completion was kept and used in future analysis.

Before conducting the analysis, these individuals were matched with the wage records. It is important to reiterate that even if an individual is not found in the South Carolina wage records, it does not mean that they are not employed. They may have moved to another state to continue their higher education, taken a job in another state, become employed by the federal government or military, or may have employment that is not covered by the UI wage records, such as self-employment or work as an independent contractor. DEW is actively pursuing opportunities to match records with other state agencies as well as other states. Future analyses will be improved by being able to identify graduates working in locations currently unavailable in solely the DEW in-state wage records.

Of the total 12,901 unique graduates in the dataset, all could be potentially employed within South Carolina one year after graduation. Of these graduates, 77.6 percent were found with wages in at least one quarter in the first four quarters after their graduation date. This is significantly higher than the rate for all graduates from institutions of higher education within South Carolina, which is 63.9⁶ percent. A more detailed demographic breakout of those found in the wage records one year after graduation can be found in [Exhibit 1](#).

³See [Appendix B](#) for additional information on graduation dates and quarters used.

⁴See [Appendix B](#) for additional information on graduation dates and quarters used.

⁵Tuition was determined from the CHE Statistical Abstract and was the tuition for the 2022-23 Academic Year. Tuition was then adjusted to 2023 US dollars using the consumer Price Index

⁶Data from E. Von Nessen 2023 'Employment Outcomes for South Carolina Post-Secondary Graduates' <https://dew.sc.gov/sites/dew/files/Documents/Post-Secondary%20Workforce%20Evaluation%208-3-2023.pdf>

EXHIBIT 1: DEMOGRAPHICS OF FOUR-YEAR INSTITUTION NURSING GRADUATES

1 YEAR AFTER GRADUATION	ALL STUDENTS	IN WR (ONE YEAR)	% IN WR (ONE YEAR)
Total ⁷	12,901	10,016	77.6%
Female	11,502	8,902	77.4%
Male	1,399	1,114	79.6%
White	9,741	7,501	77.0%
Black or African American	1,707	1,419	83.1%
Hispanic or Latino	458	340	74.2%
Asian	247	190	76.9%
Two or More Races	298	222	74.5%
In-State	8,680	7,321	84.3%
Out-of-State	4,221	2,695	63.8%

In general, male graduates were found in the wage records at slightly higher rates than female graduates. Black or African American graduates are the most likely racial group to be found in the state's wage records followed by white students. Hispanic or Latino graduates are least likely to be found in the wage records. Predictably, students who are South Carolina residents are more likely to be found in the wage records one-year after graduation than are those who are not from South Carolina.

Of the 12,901 unique graduates in the dataset, 7,608 could potentially be within the South Carolina wage records five years after graduation. Of these 7,608 graduates, 65.9 percent were found in the wage records five years after graduation. A more detailed demographic breakout of those found in the wage records five years after graduation can be found in [Exhibit 2](#).

EXHIBIT 2: DEMOGRAPHICS OF FOUR-YEAR INSTITUTION STUDENTS WHO COULD POTENTIALLY BE FOUND WITHIN WAGE RECORDS FIVE YEARS AFTER GRADUATION

5 YEARS AFTER GRADUATION	ALL STUDENTS	IN WR (FIVE YEARS)	% IN WR (FIVE YEARS)
Total ⁸	7,608	5,015	65.9%
Female	6,785	4,501	66.3%
Male	823	514	62.5%
White	5,742	3,781	65.8%
Black or African American	1,057	747	70.7%
Hispanic or Latino	237	135	57.0%
Asian	131	78	59.5%
Two or More Races	150	88	58.7%
In-State	5,093	3,605	70.8%
Out-of-State	2,515	1,410	56.1%

Whereas one year after graduation there was a slightly higher percentage of males than females found in the wage records, by five years after graduation there is a higher percent of female graduates than male graduates found in

⁷The total number of students does not equal the sum of the count for race due to suppressed information to maintain the privacy of individuals in smaller racial groups. The racial categories that are not shown are American Indian and Alaskan Native, Native Hawaiian or Pacific Islander, and those where the race was not known.

⁸The total number of students does not equal the sum of the count for race due to suppressed information to maintain the privacy of individuals in smaller racial groups. The racial categories that are not shown are American Indian and Alaskan Native, Native Hawaiian or Pacific Islander, and those where the race was not known.

the wage records. Black or African American students are still the most likely to be found in the wage records, and Hispanic or Latino graduates are still the least likely to be found in the wage records.

Again, South Carolina residents are more likely to be found within the South Carolina wage records. Seventy percent of in-state graduates are found there compared to only 56 percent of out-of-state graduates.

Of the 12,901 unique graduates in the dataset, 500 could potentially be in the wage records ten years after graduation. Of these 500 graduates, 70.0 percent were found in the wage records ten-years after graduation. Graduates are found in the wage records at higher rates ten years after graduation compared to five years post-graduation. A more detailed demographic breakout of those found in the wage records ten years after graduation can be found in [Exhibit 3](#).

EXHIBIT 3: DEMOGRAPHICS OF FOUR-YEAR INSTITUTION STUDENTS FOUND WITHIN WAGE RECORDS TEN YEARS AFTER GRADUATION

10 YEARS AFTER GRADUATION	ALL STUDENTS	IN WR (TEN YEARS)	% IN WR (TEN YEARS)
Total ⁹	500	350	70.0%
Female	438	309	70.5%
Male	62	41	66.1%
White	393	280	71.2%
Black or African American	60	40	66.7%
All Other	47	30	63.8%
In-State	451	334	74.1%
Out-of-State	49	16	32.7%

Furthermore, females are more likely to be found in the wage records than males ten years after graduation. White graduates are most likely to be found in the wage records. In-state graduates are still more likely than out-of-state graduates to be found in the wage records ten years after graduation. Additionally, the percent of out-of-state graduates in the wage records dropped by over twenty percentage points from five to ten years after graduation.

Section IV:

GRADUATES MEDIAN EARNINGS IN SOUTH CAROLINA

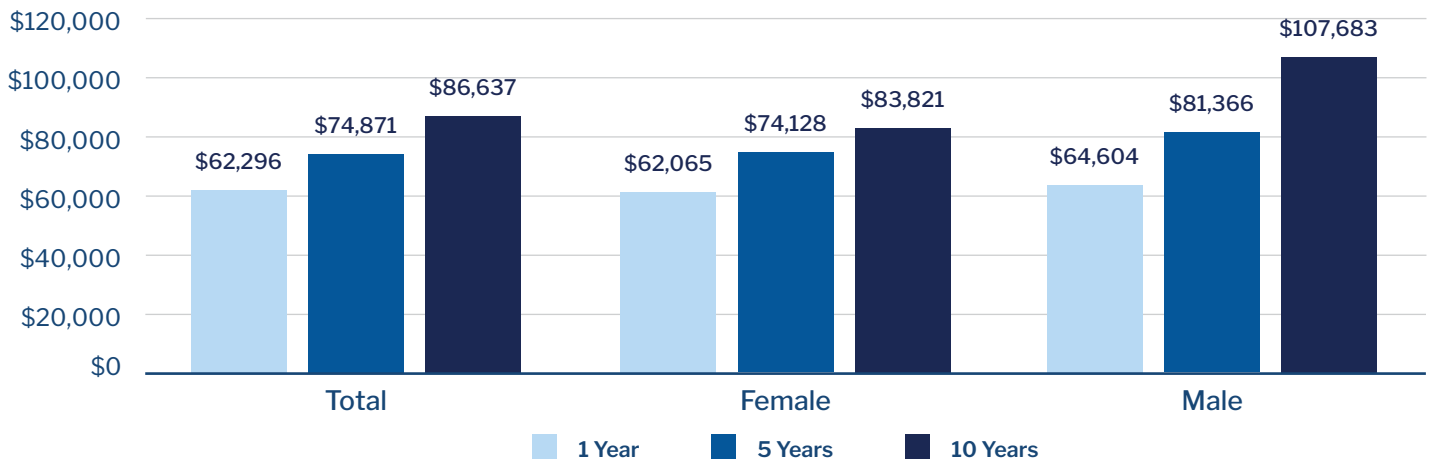
Having examined the demographic of nursing graduates in the state of South Carolina, this section examines the median earnings of individuals employed in South Carolina one, five, and ten years after graduation. Only those who met the wage threshold were included in this analysis to remove as many individuals working part-time as possible. This reduces the number of individuals analyzed, as about 611 did not meet the wage threshold one year after graduation, 210 did not meet the wage threshold five years after graduation, and eleven did not meet the wage threshold ten years after graduation.

Of all graduates expected to have wages one year after graduation, 9,405 were in the wage records and met the threshold. Of those expected to have wages five-years after graduation, 4,805 met the threshold of \$14,500 and were found in the wage records. For the group of graduates expected to have wages ten years after graduation, 339 met the wage threshold and were found in the wage records. These groups of graduates will be analyzed in this section to determine median wages by various demographic characteristics.

The median earnings for all graduates meeting the wage threshold were \$62,296 one year after graduation, \$74,871 five years after graduation, and \$86,637 ten years after graduation, an annualized growth rate of 3.7 percent from one to ten years after graduation ([Exhibit 4](#)).

⁹The total number of students does not equal the sum of the count for race due to suppressed information to maintain the privacy of individuals in smaller racial groups. The racial categories that are not shown are Asian, American Indian and Alaskan Native, Native Hawaiian or Pacific Islander, Two of More Races, and those where the race was not known.

EXHIBIT 4: WAGES FOR GRADUATES OF FOUR-YEAR NURSING PROGRAMS BY SEX



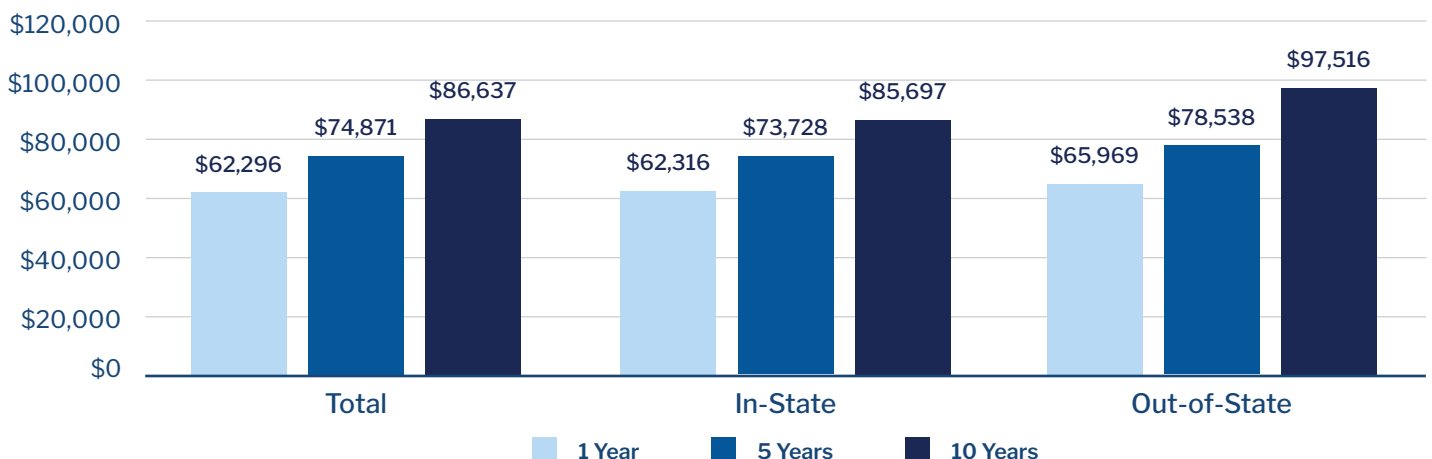
The wages of male students were significantly higher than the wages of female students one, five, and ten years after graduation (**Exhibit 4**). One year after graduation female wages were 96.1 percent of their male counterparts, and this wage disparity increased five and ten years after graduation. Five-years after graduation females only made 91.1 percent of their male counterparts and by ten years after graduation, they made 77.8 percent of what their male counterparts made.

EXHIBIT 5: MEDIAN EARNINGS FOR NURSING GRADUATES OF FOUR-YEAR INSTITUTIONS BY RACE

RACE	ONE YEAR	FIVE YEARS	TEN YEARS
Total	\$62,296	\$74,871	\$86,637
White	\$62,419	\$75,252	\$84,284
Black or African American	\$61,935	\$73,712	\$91,373
Hispanic or Latino	\$61,101	\$68,421	Suppressed
Asian	\$62,977	\$72,553	Suppressed
Two or More	\$61,912	\$74,555	Suppressed

Asian graduates made the most one year after graduation, whereas white graduates made the most five years after graduation and Black graduates made the most ten years after graduation (**Exhibit 5**). Hispanic or Latino graduates made the least one and five years after graduation, and white graduates made the least ten years after graduation.

EXHIBIT 6: WAGES FOR GRADUATES OF FOUR-YEAR NURSING PROGRAMS BY RESIDENCY PRE-ENROLLMENT



Out-of-state graduates made about 7.6 percent more than their in-state counterparts one year after graduation (**Exhibit 6**). By five years after graduation, this drops slightly to 6.5 percent more. Ten years after graduation out-of-state graduates now make about 13.8 percent more than their in-state counterparts.

Section V:

EMPLOYMENT AND EARNINGS BY SECTOR

Nearly all majority of nursing graduates are found in the health care and social assistance sector one, five, and ten years after graduation (**Exhibit 7**). Of those found in the wage records one year after graduation who meet the wage threshold and are employed in a known sector, about 91.9 percent are in the health care and social assistance sector. This percentage drops to 85.7 percent five years after graduation and 84.3 percent ten years after graduation. The second highest sector of employment is the administrative and support and waste management and remediation services sector. Thus, the true percentage of nursing graduates working in the health care field may be higher than what is demonstrated by employment in the health care and social assistance sector. As the percent of nursing graduates found in the health care and social assistance sector declines over the years after graduation, the percent of individuals employed in the finance and insurance sector grows from 0.3 percent one year after graduation to 2.7 percent ten years after graduation. Additionally, the percent of those in the educational services sector grows from 0.7 percent one year after graduation to 2.3 percent ten years after graduation.

EXHIBIT 7: TOP FIVE SECTORS OF EMPLOYMENT OF NURSING GRADUATES OF FOUR-YEAR INSTITUTIONS

SECTOR	ONE YEAR	FIVE YEARS	TEN YEARS
Health Care and Social Assistance	91.9% \$62,819	85.7% \$76,087	84.3% \$92,206
Administrative and Support and Waste Management and Remediation Services	5.9% \$63,376	7.8% \$68,494	4.0% \$75,609
Educational Services	0.7% \$48,577	1.8% \$53,622	2.3% \$45,092
Professional, Scientific, and Technical Services	0.3% \$44,538	0.8% \$61,071	3.0% \$88,308
Finance and Insurance	0.3% \$75,240	1.1% \$74,938	2.7% \$72,153
All Other	0.9% \$60,221	2.9% \$73,155	3.7% \$75,893

Furthermore, the earnings one, five, and ten years after graduation for the health care and social assistance sector, which likely consists of mainly graduates employed as nurses, were higher than the aggregate average for all sectors (**Exhibit 7**). The sectors displayed encompass all those which may be in the top three sectors of employment either one, five, or ten years after graduation. Graduates employed in the educational services sector make much less than those in the other sectors displayed; however, the percentage of those employed in this sector grows over time. The percentage of those in all sectors displayed, except health care and social assistance, increases from year one to year ten after graduation, suggesting that perhaps individuals are exiting the health care and social assistance sector and joining the other displayed sectors. However, it is worth noting that individuals in sectors other than health care and social assistance may still be working as nurses, such as those in the administrative and support and waste management and remediation services sector, which includes temporary staffing, in which many nurses work.

Section VI:

RETURN ON INVESTMENT

The estimated tuition cost of receiving a bachelor's degree in nursing in South Carolina at an institution of higher education is \$60,064.¹⁰ One-year out of college, the median annual earnings for graduates was \$62,296. The median annual earnings for all high school graduates is \$37,290.¹¹ Not accounting for lost wages and other opportunity costs associated with obtaining a bachelor's degree, this leaves a wage premium of \$25,006 for the first year after graduation. The second year after graduation, the median annual earnings for all graduates is \$71,565. This leaves a wage premium of \$34,275 for the second year after graduation. After two complete years of working after graduation, \$783 of the \$60,064 invested into a bachelor's degree remains to be paid off.

Three years after graduation the median annual wage for nursing graduates is \$71,980, a wage premium of \$34,690 over a high school graduate. This \$34,690 annual premium can be broken down into a monthly premium of \$2,891. It takes less than a month of this premium to completely repay the remaining \$783 invested into obtaining a bachelor's degree.¹² Thus, it takes approximately two years to "breakeven" and see a complete return on the investment into obtaining a bachelor's degree. Currently, we are limited to calculating ROI based only on income after graduation and cost of attendance. For a more comprehensive ROI analysis we require additional data including, but not limited to, scholarship information, full or part-time status, and total time to degree.

Section VII:

CONCLUSION

From this analysis it is clear that the return on investment for a four-year degree in nursing is high, as it takes approximately two years to "breakeven" when considering the increase in median pay. Additionally, 77.6 percent of the graduates of a South Carolina four-year nursing degree program are found within the South Carolina wage records one year later, while only 63.9 percent of all higher education graduates are found in the South Carolina wage data. Furthermore, 70 percent are found in the South Carolina wage records ten years later, as compared to 43.4 percent for all South Carolina graduates. Therefore, these data suggest that a large portion of graduates stay in South Carolina and find gainful employment and continue to be employed within the state at least ten years later.

Unsurprisingly, those students that are from South Carolina are more likely to find employment within South Carolina, but nearly 64 percent of nursing graduates from out-of-state are found within the wage records in South Carolina one year later.

It is important to provide students and families with this employment and wage information as they make decisions on whether to attend post-secondary education, how to finance that degree, and determine if nursing is a major that provides desirable employment outcomes and wage growth potential.

¹⁰Computed by a weighted average of graduates from different higher education institutions in South Carolina. Adjusted to 2023 dollars.

¹¹2022 1 Year Estimates American Community Survey Table S2001

¹²Assuming degree completion within four years.

STUDENT COUNTS BY INSTITUTION

INSTITUTIONS:	
INSTITUTION	FY2012-21 NURSING GRADUATES
PUBLIC RESEARCH INSTITUTIONS	
Clemson	1,513
USC Columbia	1,990
MUSC	1,564
PUBLIC COMPREHENSIVE TEACHING INSTITUTIONS	
The Citadel	74
Coastal Carolina	205
Francis Marion	768
Lander	482
SC State	92
USC Aiken	817
USC Beaufort	293
USC Upstate	2,825
INDEPENDENT SENIOR AND JUNIOR INSTITUTIONS	
Anderson University	605
Bob Jones University	331
Charleston Southern University	557
Claflin University	99
Columbia College	19
Newberry College	169
South University	488
Southern Wesleyan University	10

Appendix B

WAGE MATCHING QUARTERS

FOUR-YEAR GRADUATES:				
GRADUATION YEAR- GRADUATION SEM	YR/QUARTER	YR/QUARTER	YR/QUARTER	YR/QUARTER
2012 – 05				
1-year	2012/4	2013/1	2013/2	2013/3
5-year	2016/4	2017/1	2017/2	2017/3
10-year	2021/4	2022/1	2022/2	2022/3
2012 – 10				
1-year	2013/1	2013/2	2013/3	2013/4
5-year	2017/1	2017/2	2017/3	2017/4
10-year	2022/1	2022/2	2022/3	2022/4
2013 – 15				
1-year	2013/2	2013/3	2013/4	2014/1
5-year	2017/2	2017/3	2017/4	2018/1
10-year	2022/2	2022/3	2022/4	2023/1
2013 - 20/30				
1-year	2013/3	2013/4	2014/1	2014/2
5-year	2017/3	2017/4	2018/1	2018/2
10-year	2022/3	2022/4	2023/1	2023/2
2017 – 05				
1-year	2017/4	2018/1	2018/2	2018/3
5-year	2021/4	2022/1	2022/2	2022/3
2017 – 10				
1-year	2018/1	2018/2	2018/3	2018/4
5-year	2022/1	2022/2	2022/3	2022/4
2018 – 15				
1-year	2018/2	2018/3	2018/4	2019/1
5-year	2022/2	2022/3	2022/4	2023/1
2018 - 20/30				
1-year	2018/3	2018/4	2019/1	2019/2
5-year	2022/3	2022/4	2023/1	2023/2
2020 – 05				
1-year	2020/4	2021/1	2021/2	2021/3
2020 – 10				
1-year	2021/1	2021/2	2021/3	2021/4
2021 – 15				
1-year	2021/2	2021/3	2021/4	2022/1
2021 - 20/30				
1-year	2021/3	2021/4	2022/1	2022/2
2021 – 05				
1-year	2021/4	2022/1	2022/2	2022/3
2021 – 10				
1-year	2022/1	2022/2	2022/3	2022/4

