ABSTRACT
The Goods and Services Tax (GST) implementation in India and a few other countries, such as Australia and the UK, is compared in this research with an emphasis on the pre-and post-COVID periods. Given its significance as a consumption tax mechanism on a worldwide scale, the effectiveness of the Goods and Services Tax (GST) must be thoroughly examined. Using data from five years of GST revenue collection and GDP growth rates, this study compares the performance of GST in India and the selected nations.

Furthermore, this research expands its scope to include the pre-covid and post-covid eras, assessing the durability and adaptation of GST structures during the epidemic. Findings provide insights into the efficacy of GST implementation and make recommendations for policy upgrades, expanding the discussion on tax policy and economic resilience.


INTRODUCTION
The Goods and Services Tax (GST) is a successor to the VAT used in India on the force of goods and services. Both VAT and GST have the same taxation crossbeams. It's a comprehensive, multistage, destination-grounded duty because it has contained nearly all the circular levies except many state levies. Multi-staged as it is, the GST is assessed at every step in the product process but is meant to be reimbursed to all parties in the colorful stages of the product other than the final consumer, and as a destination-grounded duty, it's collected from the point of consumption and not a point of origin like former levies. Goods and services are divided into five different duty crossbeams for collection of duty 0, 5, 12, 18, and 28. still, petroleum products, alcoholic drinks, and electricity aren't tested under GST and rather are tested independently by the individual state governments, as per the former duty system. There's a special rate of 0.25 on rough precious and semi-precious monuments and 3 on gold. In addition, a cess of 22 or other rates on top of 28 GST applies on several
particulars like aerated drinks, luxury buses, and tobacco products. Pre-GST, the statutory duty rate for utmost goods was about 26.5; post-GST, utmost goods are anticipated to be in the 18% range.

GLOBAL SIGNIFICANCE OF GST

Globally, the notion of GST is the same. In several nations, VAT is used in place of GST. However, in theory, it is a destination-based tax levied on the purchase and use of goods and services in every nation. The introduction of GST was almost always accompanied by some issues, such as inflation, price increases, etc. The rate structure, however, is the most contentious matter in every nation where GST is in place. However, it is imperative to acknowledge that the political implications of the Goods and Services Tax (GST) in India are equally significant as the economic implications of the new tax regime.

**Australia:** The Australian Tax Office is responsible for collecting and distributing the Goods and Services Tax (GST) to the states as a federal tax. The tax rate was first implemented in 2000, and it is now 10%. Fresh food, health care, and education are just a few of the numerous domestically used goods that are zero-rated. Given that they are inherently tax in nature, government fees and levies are therefore excluded.

**Canada:** Prime Minister Brian Mulroney's administration imposed a value-added tax on goods and services (GST; French: Taxe sur les produits et services) on January 1, 1991. Formerly known as the hidden 13.5% manufacturers' sales tax (MST), the GST is managed by the Canada Revenue Agency (CRA). The GST rate was first introduced on January 1, 2008, at a rate of 7%. Since then, it has been cut twice, and it is now 5%. In 2017–2018, the GST generated 11.7% of the total income received by the federal government. The GST is coupled with provincial sales tax (PST) to create a harmonized sales tax (HST) in five provinces: Nova Scotia, New Brunswick, Newfoundland and Labrador, Ontario, and Prince Edward Island.

**New Zealand:** A value-added tax or consumption tax applied to products and services used in New Zealand is known as the products and Services Tax (GST). In New Zealand, the Goods and Services Tax (GST) is intended to be a comprehensive system with limited exclusions, including financial services, contributions, precious metals, and rent collected from residential rental units.[1] Its large base allows it to collect 31.4% of GDP in total taxes. The National Party implemented a 15% GST rate, which became effective on October 1, 2010. The ultimate cost of the product or service being purchased includes this 15% tax; goods and services are promoted as GST included. Long-term hotel stays (more than four weeks) are subject to the reduced rate GST of 9%.

**France**: The GST was initially implemented in France in 1954. The VAT, excise, and service taxes are all replaced by one single, unified tax system. Due to the fact that extremely high sales taxes and tariffs promote deceit and smuggling, it was necessary to introduce it as a value-added tax. Since 1967, a number of VAT directives have been implemented with the aim of creating a unified market comprised of the member states of the European Union. There has been some partial harmonization of the regulations pertaining to the territory, payment methods, tax bases, scope, and reporting obligations for goods and services. General consumption tax, or VAT), is levied on products and services that are supplied in France. Since TVA is
included in the cost of products or services, it is a proportionate output tax that is collected by the businesses and eventually fully funded by the customer.

**Malaysia:** Malaysia no longer imposes the Goods and Services Tax (GST), a value-added tax. Except for blocked input tax, which is repaid to all parties in the production chain excluding the ultimate consumer, GST is charged on the majority of transactions that occur throughout the manufacturing process. 6% is the current normal GST rate, which went into effect on April 1, 2015. While certain supply, including education and health care, are GST-exempt, many domestically used goods, like fresh food, water, and power, are zero-rated.

**Singapore:** In Singapore, most deliveries of goods and services are subject to a value added tax (VAT) of 9%, known as the Goods and Services Tax (GST). The majority of financial services, residential property sales and leases, and the importation and local supply of investment precious metals are all exempt. International services and goods export are not subject to tariffs. The government also absorbs GST for services related to public healthcare, including those provided at public hospitals and polyclinics.

**United Kingdom:** The United Kingdom operates a Value Added Tax (VAT) system instead of a Goods and Services Tax (GST). VAT is a consumption tax levied on most goods and services provided by businesses in the UK. It is administered and collected by Her Majesty's Revenue and Customs (HMRC). The standard rate of VAT is determined by the government and applies to most goods and services. However, there are also reduced rates and exemptions for certain items like food, children's clothing, and books. Registered businesses are required to charge VAT on their taxable supplies and file VAT returns with HMRC, ensuring compliance with VAT regulations. The VAT system in the UK plays a significant role in generating revenue for the government and regulating consumption-related taxation.

**Germany:** Value Added Tax (VAT), sometimes referred to as "Umsatzsteuer," is a cornerstone of the tax system in Germany. VAT is applied to the majority of transactions in the nation, with a regular rate of 19% and a reduced rate of 7% for particular goods and services. Businesses that reach certain limits for turnover must register for VAT, comply with intricate requirements, and make frequent reports. Input tax deduction promotes fair taxation by enabling firms to subtract VAT on purchases from VAT received on sales. Additionally, qualifying firms can benefit from streamlined VAT procedures through specific programmes like the small company plan.

**South Korea:** South Korea has VAT (GST) where most products and services are subject to the regular 10% VAT rate under the VAT system; however, some goods and services may be excluded from VAT altogether or subject to a lower rate under certain conditions specified in South Korean tax laws. Businesses must register for VAT and abide by rules established by the National Tax Service (NTS) if they reach specific levels. This entails submitting the collected VAT within the allotted time frames and submitting frequent VAT returns. Companies doing business in South Korea should remain up to speed on modifications to VAT rules and obtain advice from tax specialists to maintain compliance since tax legislation is subject to change.
OBJECTIVE OF THE STUDY

1. To Compare GST Implementation: To find parallels, contrasts, and critical policy insights, compare the Goods and Services Tax (GST) implementation in India to those of chosen nations such as Australia and the United Kingdom.

2. To Assess Economic Impact: Analyse GDP growth rates, tax revenue collection, and sectoral contributions over a certain period to determine the economic impact of GST in India and other nations.

3. To draw lessons from global experiences.

4. To examine how other countries address tax evasion, compliance, and economic growth within their respective GST Frameworks to derive insights into India’s GST implementation and improvement strategies.

NEED FOR THE STUDY

- Understand GST’s role in boosting or hindering growth
- Compare GST implementations across countries.
- Offer actionable insights for policymakers and businesses.
- Analyze the impact of COVID-19 on GST on government revenue generation.

SCOPE OF THE STUDY

1. Geographical scope: The study will compare GST implementation in India to chosen nations such as Australia and the United Kingdom. Other countries may be mentioned for contextual purposes, but they will not be the major emphasis.

2. Temporal Scope: The analysis will cover a specified time period, encompassing both pre-COVID and post-COVID eras to examine the impact of the pandemic on GST implementation and economic outcomes.

3. Policy Analysis: The research will examine GST policies and their evolution in India, Australia, and the United Kingdom, with an emphasis on important policy changes, implementation issues, and reactions to the COVID-19 epidemic.
4. Economic Impact: Over the stated time period, the research will examine GST's economic impact using variables such as GDP growth rates, tax revenue collection, and sectoral contributions.

5. Tax Compliance and Administration: The analysis will examine the efficacy of GST compliance mechanisms and administrative frameworks in assuring tax compliance and reducing tax evasion across countries.

THEATRICAL IMPLICATION OF THE STUDY

- Tax Policy Effectiveness: Investigating how diverse methods to consumer taxing, as demonstrated by GST implementation in many nations, affect revenue generation, economic development, and fiscal stability. This might include evaluating the theoretical foundations of consumption taxes as well as their practical uses.

- Economic Resilience and Adaptation: Investigating how tax regimes, particularly consumption taxes like GST, help or hinder a country's capacity to weather economic shocks like the COVID-19 epidemic. This might include investigating theoretical frameworks for economic resilience and adaptive policy responses.

- Policy Design and Durability: Examining the theoretical concepts that govern the design and execution of GST systems, such as tax base expansion, rate structures, compliance methods, and administrative efficiency. This might entail evaluating theoretical models of tax policy design and their long-term viability and efficacy.

- Comparative Taxation Theory: Investigating the theoretical underpinnings of comparative tax analysis, particularly methods for assessing the performance of tax systems in various nations and settings. This might include investigating theoretical frameworks for cross-country comparative research and its implications for evaluating the efficacy of GST implementation in India and other selected countries.

RECENT TRENDS RELATED TO GST:

- Measures for simplification include lowering tax slabs and streamlining the return filing procedure.

- Digital Transformation: Using the GSTN portal, automation and digitization are prioritised.
- Anti-Profiteering Measures: Implementation with vigilance to guarantee benefits reach customers.

- Implementation Challenges: Administrative complexity and technology problems are among the first obstacles.

- Harmonization Efforts: The EU and other areas are attempting to bring their VAT systems into line.

Rate Variations: Adjusting GST/VAT rates by social and economic goals

**LITERATURE REVIEW**

- India's GST is praised in Haider Khan's 2017 article, "A Comparative Study of GST in India and Other Countries," since it has been a worldwide norm in 160 nations since France's 1954 model. Comparing India's dual system to Canada's since 1991, he anticipates lower taxes will encourage business. Like its Canadian counterpart, India's GST was designed to be globally compliant and promised streamlined taxation and improved business climate since 1954.

- The paper “GST in Select Countries of the World: Lessons for India” by Rahul Bhasin and Anurag Mittal discusses India's GST implementation to simplify taxes, drawing insights from other countries. Critics raise concerns about its regressive nature, advocating for exemptions to lessen the burden on lower-income households. The paper discusses impending GST implementation in India, drawing insights from various countries like Canada, New Zealand, Malaysia, Singapore, and Australia.

- The paper “GST: An economic overview: Challenges and Impact Ahead” by Prof. Pooja. S. Kawle, Prof. Yogesh L. Aher India's introduction of GST simplifies taxation by replacing multiple taxes. Modeled after Canada's dual GST system, it aims to create a comprehensive tax structure for all sectors. Despite initial controversy, GST is expected to streamline administration and boost economic development. GST in India replaces multiple levies, fostering economic development, aligning with global tax norms, and positioning the country as a leader in international taxation and corporate governance.

- The paper “Good and Service Tax: An International Comparative Analysis” by Saurabh Gupta, Sarita, Komal, Muninder Kumar Singh, and CA Hemraj Kumawat India's GST Bill, inspired by Canada's model, simplifies taxation by replacing various Central and State taxes. Other countries, such as Japan and Singapore, have diverse GST systems with different tax rates worldwide socioeconomic backdrop notwithstanding, the introduction of GST is essential for economic growth; Canada's GST Bill, which is modelled after India's, seeks to streamline taxation, whereas Singapore and Japan have different GST regimes. In today's international financial landscape, Tax is essential for economic progress regardless obstacles.

- The paper “A comparative analysis between VAT in Bangladesh and GST” by Deeti Saha and
Rokibul Hasan Shaikh discusses India's comparison between Bangladesh's VAT and India's GST highlighting differences in revenue contribution, exemptions, and focus on redistribution, emphasizing the need for careful policymaking to mitigate deadweight losses. Tax revenue from VAT/GST is vital for economies like Bangladesh and India, with variations in contribution levels and redistribution focus necessitating careful policymaking to address deadweight losses.

- The paper “A Comparative Study of Indian GST with Canadian Model” by Dr. K. Vijaya Kumar and Jahangeer C the researcher's comprehensive analysis compares India's GST system with Canada's, exploring models, reasons for adoption, and components like tax rates and return procedures, offering valuable insights for policymakers and professionals in navigating indirect taxation complexities.

- In The paper “A comprehensive study of GST in India and contrast with other selected countries” by Harshitha K.S, the researcher emphasizes India's complex GST system but sees its implementation as crucial, suggesting ongoing evaluation, and drawing insights from various countries' tax systems to provide context.

- This paper “A Comprehensive Study of India’s GST Regime with the Canadian GST Model with special emphasis on the idea of Fiscal Federalism” by Mehul Mor, conducts a detailed comparative analysis between India's GST introduced in 2017 and Canada's model established in 1991, focusing on fiscal federalism, legal frameworks, and implementation strategies to provide nuanced insights into their implications in indirect taxation.

- The paper “A COMPARATIVE STUDY ON INDIRECT TAX IN INDIA VISA-VIS BRAZIL, CANADA AND CHINA” talks about India's GST system, initiated in 2017, which aims to simplify taxation and boost economic development, with ongoing challenges addressed through insights from tax regimes in China and Canada for continual refinement and adaptation.

- The paper “Goods and Services Tax: A Comparative Study of India and the World” by Sarvesh Singh offers a concise overview of GST implementation, focusing on India, covering adoption history, comparative rates, objectives, methodology, literature review, and potential benefits.

- The research paper “A STUDY OF GST FROM AN INTERNATIONAL PERSPECTIVE WITH SPECIAL REFERENCE TO INDIA” by Gour Gopal Banik comprehensively analyzes GST implementation across multiple countries, providing insights into historical backgrounds, challenges, outcomes, and inherent strengths.

- The research paper “A Comparison of the Goods and Services Tax between India and Other Countries” by Karan Vora analyses India's 2017 GST adoption, employing qualitative analysis to compare global indirect federal taxes and suggesting the need for a diversified tax base alongside future research on post-GST revenue collections.

- The research paper “GST: A Comparative Study of India vis a vis Singapore” analyzes the implementation and effects of GST in India and Singapore, highlighting challenges, impacts on industries, and the necessity for ongoing refinement to promote economic growth and competitiveness.
The research paper “A COMPARATIVE STUDY OF GST IN INDIA AND OTHER COUNTRIES” identifies challenges in GST implementation in India and Singapore, including compliance, tax structure complexity, IT system adaptation, and transition for SMEs.

STATEMENT OF THE PROBLEM

The establishment of the Goods and Services Tax (GST) has revolutionized tax systems in several nations, including India, Australia, and the UK. However, the COVID-19 epidemic has posed unprecedented problems to global economies, affecting fiscal policies, tax collections, and economic growth rates. This study will provide a comparative examination of GST implementation in India, Australia, and the United Kingdom, with an emphasis on the pre-and post-COVID periods. The primary questions addressed are:

1. How did these nations' GST regimes evolve before and during the COVID-19 pandemic?
2. What are the pandemic's divergent effects on GST revenue collection, GDP growth rates, and sectoral dynamics in each jurisdiction?
3. How have countries responded to the issues posed by the pandemic?
4. How have governments addressed to the pandemic's issues through GST policy and budgetary measures?

This study aims to identify best practices, policy implications, and lessons gained from the experiences of these nations in order to influence future GST changes and improve economic resilience in the face of global crises.

RESEARCH QUESTIONS:

- Is there a major difference in GDP growth and GST revenue collection between pre- and post-COVID eras across countries?
- How do different countries' GST systems compare in terms of revenue generation and economic growth?
- Is there an association between GDP growth rates and GST income collection in each country?
- To what degree do fiscal policies, including GST implementation and revisions, influence differences in GDP growth and GST revenue collection between countries?
HYPOTHESIS

Null Hypothesis : H0: There is no significant difference in GST revenue collection between the Pre-COVID and Post-COVID across the countries.

**Alternative Hypothesis:** H1: There is a significant difference in GST revenue collection between the Pre-Covid and Post-Covid across the countries.

Null Hypothesis : H0: There is no significant correlation between GDP growth rates GST revenue collection across the countries.

**Alternative Hypothesis:** H1: There is a significant correlation between GDP growth rates and GST revenue collection across the countries.

DATA PROCESSING AND ANALYSIS

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COUNTRY</th>
<th>TOTAL GST REVENUE COLLECTION(IN BILLIONS)</th>
<th>TOTAL GDP GROWTH RATE %</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE COVID</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>INDIA</td>
<td>11.77</td>
<td>3.9</td>
</tr>
<tr>
<td></td>
<td>AUSTRALIA</td>
<td>66.7</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>UK</td>
<td>253.62</td>
<td>1.4</td>
</tr>
<tr>
<td>2019</td>
<td>INDIA</td>
<td>12.22</td>
<td>3.9</td>
</tr>
<tr>
<td></td>
<td>AUSTRALIA</td>
<td>66.7</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>UK</td>
<td>261.89</td>
<td>1.6</td>
</tr>
<tr>
<td>POST COVID</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>Country</td>
<td>GDP Growth</td>
<td>GST Revenue</td>
</tr>
<tr>
<td>------</td>
<td>-----------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>2020</td>
<td>INDIA</td>
<td>11.36</td>
<td>-5.8</td>
</tr>
<tr>
<td></td>
<td>AUSTRALIA</td>
<td>72.6</td>
<td>-6.6</td>
</tr>
<tr>
<td></td>
<td>UK</td>
<td>235.06</td>
<td>-10.4</td>
</tr>
<tr>
<td>2021</td>
<td>INDIA</td>
<td>8.10</td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td>AUSTRALIA</td>
<td>73.6</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>UK</td>
<td>260.99</td>
<td>8.7</td>
</tr>
<tr>
<td>2022</td>
<td>INDIA</td>
<td>18.07</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td>AUSTRALIA</td>
<td>81.332</td>
<td>4.8</td>
</tr>
<tr>
<td></td>
<td>UK</td>
<td>246.8</td>
<td>4.3</td>
</tr>
</tbody>
</table>

**STATISTICAL TOOL:** These variables' data will be gathered using descriptive statistics. ANOVA (Analysis of Variance) will be used to compare GDP growth and GST revenue collection before and after COVID. ANOVA analysis compares means across many groups, making it appropriate for assessing changes between two time periods.

**DATA ANALYSIS TECHNIQUE:** Using ANOVA, we can see if there are any statistically significant changes in GDP growth rates and GST revenue collection between the pre-COVID and post-COVID periods. This statistical technique will give insights into the influence of the COVID-19 epidemic on economic indicators and budgetary policies across different nations.

**DATA ANALYSIS**

The data analysis for this study will focus on two important variables: the amount of money collected from the Goods and Services Tax (GST) and GDP growth rates across various nations. The analysis will examine the patterns in these variables before and after the commencement of the COVID-19 pandemic, with the
goal of understanding any shifts or changes in GST revenue collection and GDP growth rates across different nations in the pre-COVID and post-COVID eras.

Descriptive Statistical Analysis:

Calculations for descriptive analysis for GST revenue collection

<table>
<thead>
<tr>
<th>Country</th>
<th>Mean (GST Revenue collection)</th>
<th>Standard deviation (GST revenue collection)</th>
<th>Minimum GST Revenue collection</th>
<th>Maximum GST Revenue collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDIA</td>
<td>12.148</td>
<td>3.29</td>
<td>8.10</td>
<td>18.07</td>
</tr>
<tr>
<td>AUSTRALIA</td>
<td>73.126</td>
<td>5.82</td>
<td>66.7</td>
<td>81.332</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>251.272</td>
<td>9.70</td>
<td>235.06</td>
<td>260.99</td>
</tr>
</tbody>
</table>

Calculations for descriptive analysis for GDP revenue growth

<table>
<thead>
<tr>
<th>Country</th>
<th>Mean GDP Growth</th>
<th>Standard deviation GDP growth</th>
<th>Minimum GDP growth</th>
<th>Maximum GDP growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDIA</td>
<td>3.94%</td>
<td>5.01%</td>
<td>3.90%</td>
<td>9.10%</td>
</tr>
<tr>
<td>AUSTRALIA</td>
<td>2.90%</td>
<td>4.46%</td>
<td>1.50%</td>
<td>4.80%</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>1.950%</td>
<td>6.33%</td>
<td>-10.4%</td>
<td>8.7%</td>
</tr>
</tbody>
</table>
The descriptive statistics provide insights into the central tendency and variability of data for GDP growth rate and GST revenue collection in three countries: India, Australia, and the United Kingdom:

- **Average GST Revenue collection**
  
  India has the lowest average GST revenue collection (12.148 billion), followed by Australia (73.126 billion) and the United Kingdom (251.272 billion). This demonstrates that, among the three nations, the United Kingdom collects the highest GST on average.

- **Standard deviation in the collection of GST revenue:**
  
  The standard deviation represents the variability or dispersion of GST revenue collection around the mean value. With a standard deviation of over 9.70 billion, the UK has the highest amount of variability in GST income collection when compared to Australia (around 5.82 billion)

- **Average Rate of GDP Growth:**
  
  India has the highest average GDP growth rate (3.94%), followed by the UK (1.950%) and Australia (2.90%). This implies that India's average GDP growth has been higher than that of Australia and the United Kingdom throughout the specified time period.

- **The GDP growth rate standard deviation:**
  
  The variability or dispersion of growth rates around the mean. India has the largest estimated standard deviation, at 5.01%, followed by the United Kingdom (6.33%) and Australia (4.46%). This shows that GDP growth rates in India and Australia are more volatile than in the United Kingdom.

- **Minimum and Maximum Amounts:**
  
  The lowest and highest values for each variable indicate the range of data seen. India has the lowest minimum value (8.10 billion) for collecting GST income, whereas the UK has the highest maximum value (260.99 billion). India has the highest maximum GDP growth rate (9.10%), but the United Kingdom has the lowest minimum value (-10.4%), indicating a negative growth rate.
HYPOTHESIS TESTING:

Hypothesis 1

**Null Hypothesis: H0:** There is no significant difference in GST revenue collection between the Pre-COVID and Post-COVID across the countries.

**Alternative Hypothesis: H1:** There is a significant difference in GST revenue collection between the Pre-Covid and Post-Covid across the countries.

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean diff(Pre covid and Post covid)</td>
<td>0.16</td>
</tr>
<tr>
<td>Prob &gt; t</td>
<td></td>
</tr>
<tr>
<td>Standard error of difference</td>
<td>57.71</td>
</tr>
<tr>
<td>Degree of freedom</td>
<td>13</td>
</tr>
<tr>
<td>Prob &gt; t</td>
<td>0.5011</td>
</tr>
<tr>
<td>F Ratio</td>
<td>0.00</td>
</tr>
<tr>
<td>Prob &gt; F</td>
<td>0.9978</td>
</tr>
</tbody>
</table>

We looked at numerous crucial components when comparing GST revenue collection before and after the COVID-19 epidemic. Initially, we calculated the mean difference in GST revenue collection between the pre-COVID and post-COVID periods, which revealed a 0.16-unit difference. However, after exposing this discrepancy to stringent statistical testing, we discovered that it was statistically insignificant. Both probability associated with the t-test, Prob > |t| and Prob > t, were significantly high, suggesting that the observed discrepancy in means might have occurred by chance if the null hypothesis, which states that there is no difference between the periods, were true.
Furthermore, we examined the standard error of the difference to determine the variability of the mean difference estimate, which was found to be 57.71. This number gives critical information about the precision of our estimate. Further analysis, using the F-test, which compares variability across groups to within-group variability, confirmed our findings. The F Ratio was found to be low, with a high associated probability (Prob > F), indicating no difference in GST revenue collection between the pre- and post-COVID eras.

Based on these detailed studies, we conclude that there is no statistically significant difference in GST revenue collection between the pre-COVID and post-COVID periods in the nations under consideration. Any disparities discovered are most likely due to random fluctuation rather than an actual effect of the COVID-19 epidemic on GST revenue collection. Thus, we fail to reject the null hypothesis, stating that there is no substantial difference in GST revenue collection before and after the commencement of the epidemic.

HYPOTHESIS 2:

Null Hypothesis: \( H_0 \): There is no significant correlation between GDP growth rates GST revenue collection across the countries.

Alternative Hypothesis: \( H_1 \): There is a significant correlation between GDP growth rates and GST revenue collection across the countries.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER OF OBSERVATIONS (n)</td>
<td>13</td>
</tr>
<tr>
<td>SUM OF GDP GROWTH RATES</td>
<td>112.0541</td>
</tr>
<tr>
<td>SUM OF GST REVENUE COLLECTION</td>
<td>111990</td>
</tr>
<tr>
<td>SUM OF THE PRODUCT OF GDP GROWTH RATES AND GST REVENUE COLLECTION</td>
<td>12561194.259</td>
</tr>
</tbody>
</table>

Using the formula for Pearson’s correlation coefficient
The correlation coefficient, a statistical metric that assesses the degree and direction of a linear relationship between two variables, was used to investigate the link between GDP growth rates and GST revenue collection in different countries. The correlation value is roughly 0.501, indicating a modest positive association between the two variables. This implies that when GDP growth rates increase, so does GST income collection. The correlation coefficient \( r \) between GDP growth rates and GST revenue collection was determined to be statistically significant when compared to critical levels. This means that the observed association is unlikely to occur by chance alone.

Based on our computations and statistical analysis, we clearly reject the null hypothesis \( H_0 \) and adopt the alternative hypothesis \( H_1 \). This highlights the existence of a strong and statistically significant link between GDP growth rates and GST revenue collection across the analyzed nations, thereby offering valuable insights into their economic dynamics and interconnectedness.

Our statistical research found a strong association between GDP growth rates and GST revenue collection across analyzed nations, supporting the alternative hypothesis \( H_1 \) over the null hypothesis \( H_0 \). This research provides crucial insights into the complex economic processes and interconnectivity that exist within these countries. The reported GST income decreases in 2020 highlighted the significant fall in economic activity caused by the COVID-19 pandemic. However, later increases in GST income in the post-COVID era indicate a recovery in economic activity as economies slowly reopened and commercial operations resumed. These swings in GST income collection mirror wider economic patterns and recovery paths encountered by several countries. Furthermore, the differences in GST revenue collection between countries reveal different levels of economic resilience and the efficacy of policies put in place to lessen the negative consequences of the epidemic. Because of strong policy responses and structural advantages, some nations may have shown greater resilience, while others may have had more serious difficulties as a result of systemic vulnerabilities or resource limitations.

In addition to offering important insights into the pandemic's economic effects, analyzing these trends helps guide strategic choices at the national and international levels. Through a comprehensive comprehension of the intricate correlation between GDP growth rates and GST revenue collection, policymakers may formulate...
focused measures aimed at fostering economic recovery, advocating for fiscal sustainability, and strengthening resilience against potential shocks. Furthermore, this analysis sheds light on the long-term economic resilience and recovery efforts required to navigate the post-pandemic landscape successfully.

CONCLUSION

In conclusion, this research article has presented a complete examination of the link between GDP growth rates and GST revenue collection in India, Australia, and the United Kingdom before to and after COVID-19. Through thorough data investigation and statistical analysis, we discovered unique insights into these countries' economic dynamics in the middle of the worldwide epidemic. Our findings show a modest positive link between GDP growth rates and GST revenue collection, demonstrating the interconnectedness of economic indicators. Furthermore, comparing pre- and post-COVID data revealed that the pandemic had a major influence on economic performance, as indicated by changes in GDP growth rates and GST revenue collection.

These findings have important implications for governments, companies, and investors as they seek to comprehend the pandemic's short-term consequences and plan for future economic resilience and recovery efforts. Moving forward, further study and analysis in this field will be critical for navigating the changing economic landscape and encouraging long-term growth and development in a post-pandemic society. In addition to the correlation study between GDP growth rates and GST revenue collection, this research report examined the larger economic ramifications of the COVID-19 epidemic in India, Australia, and the United Kingdom. By comparing patterns in GDP growth and GST revenue across many years, covering the pre and post-COVID eras, we got a better understanding of these economies' resilience and adaptation in the face of extraordinary obstacles. Our findings highlight the necessity of strong governmental responses, good fiscal management, and smart economic planning in reducing the pandemic's negative consequences and promoting recovery.
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