|  |  |
| --- | --- |
| A blue triangle with white text  AI-generated content may be incorrect.  **Victorian State Schools-Voluntary Parent Payments DATA** | Aayush Ketan Purohit  1850846  DATA6000  CAPSTONE: Industry Case Studies  Industry Review Report |
|  |  |

Table of Contents

[Executive Summary 1](#_Toc205918560)

[Introduction 2](#_Toc205918561)

[Existing Analysis and Methodologies 3](#_Toc205918562)

[Data Sources 4](#_Toc205918563)

[Selecting Business Problem 5](#_Toc205918564)

[The Significance 5](#_Toc205918565)

[Data Evidence 5](#_Toc205918566)

[Techniques to Investigate 6](#_Toc205918567)

[Contribution Originality 7](#_Toc205918568)

[References 9](#_Toc205918569)

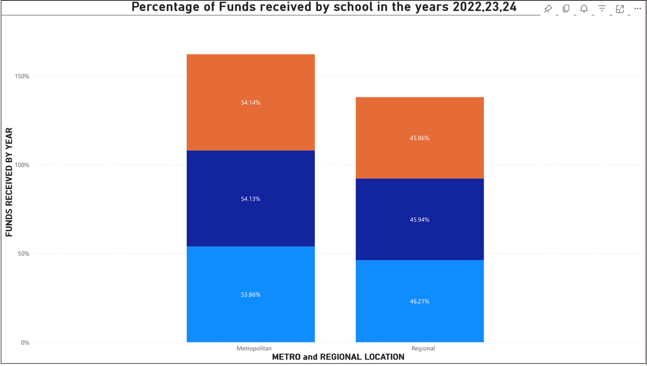
[Gen AI Appendix 10](#_Toc205918570)

## Executive Summary

The Victoria State Schools Voluntary Parent Payments dataset provides detailed information on parental financial contributions to Victoria's public schools, highlighting regional funding disparities and highlighting the impact of these payments on educational outcomes, aiding policy debates and promoting equitable access to resources.

The data, that is divided into sections including Subject Contributions, Sale of Class Materials, Fundraising Activities, Donations, and Camps/Excursions/Activities, records school-level revenue from voluntary parent contributions in Victorian government schools. It makes it possible to analyse the financial dependence on parental and community assistance by providing annual totals for each revenue stream.

The dataset was produced on August 2, 2014, and its metadata was updated as of March 21, 2025. However, it does not include any more recent donation figures. This information aids in evaluating how schools use voluntary contributions for a variety of purposes to augment financing.



This graph, which displays the percentage of annual voluntary donations, demonstrates the persistent superiority of urban areas over rural ones in terms of overall financing share.

## Introduction

The Australian education sector is crucial for social equity, workforce capability, and economic growth. However, voluntary parental contributions significantly contribute to school-level resources, affecting facilities, learning resources, and extracurricular opportunities. This has led to funding gaps between affluent metropolitan areas and rural or economically disadvantaged regions. High-ICSEA schools in suburbs with higher household incomes attract more generous contributions, allowing for investment in modern facilities and technology. Schools in regional or low-income communities struggle to meet basic resourcing needs, limiting innovation and enrichment.

*The Three Business Problems* currently facing the education industry are:

1. Regional Inequity in Contributions: Many rural schools are unable to afford to upgrade their technology, build new facilities, or provide extensive support services. Compared to their classmates in cities, rural pupils frequently have fewer opportunities and access to antiquated resources because of this discrepancy.

2. Benefits of ICSEA for Wealthy Schools: There is a high correlation between parents' financial contribution and the Index of Community Socio-Educational Advantage (ICSEA). The performance difference is widened further since schools in high-ICSEA areas frequently receive much more voluntary support, which enables them to hire specialised staff, increase curriculum offerings, and improve student wellness programmes.

3. Small School Structural Restrictions: Due to lower enrolment and less affluent populations, smaller schools—especially those in rural, low-density areas—face inherent challenges when it comes to collecting voluntary donations.

A graph of blue squares

AI-generated content may be incorrect.

Shows the ranked suburb distribution by total contributions, showing that high-ICSEA metropolitan zones are home to most of the best-funded suburbs.

## Existing Analysis and Methodologies

Inequalities in public education spending have been brought to light by several studies. The growing financing disparity between schools with high and low socio-educational advantage is highlighted by Lamb et al. (2020). Stronger parental financial support benefits schools in high-income areas, as Goss and Sonnemann (2016) from the Grattan Institute showed, further improving student outcomes and school performance.  
  
Typical approaches

Public education spending inequalities have long been a concern for policymakers, educators, and researchers. Studies have shown that a school's socio-economic environment directly influences the level of voluntary financial support it receives.

Funding disparities between schools with high and low socio-educational advantage have widened over the last decade. In wealthier areas, strong parental contributions can significantly improve school facilities, student resources, and extracurricular offerings, creating a self-reinforcing cycle of advantage. Analysing these disparities typically involves several methodological approaches: descriptive statistics, time-series analysis, regression analysis, and geographic mapping and spatial analysis.

Descriptive statistics provide the first layer of insight, while time-series analysis examines contribution levels over multiple years to identify whether funding disparities are stable, widening, or narrowing.

Regression analysis quantifies the relationship between contribution levels and explanatory variables, such as ICSEA score, enrolment size, and location. Geographic mapping and spatial analysis help identify "outlier" schools that defy typical trends, which can be useful for targeted policy intervention.

However, there is a notable lack of research specifically focusing on regional disparities in voluntary contributions within the Victorian government school system using the most recent datasets (2022-2024).

## Data Sources

The Data used for this assignment was used and modified to add couple more columns, based on the research it was a bit easier to find the business problems.

The source for the data set is as follows:

<https://discover.data.vic.gov.au/dataset/victorian-state-schools-voluntary-parent-payments>

The comprehensive dataset used in this project consists of:  
• School-based voluntary parental payments (2022–2024)  
ICSEA scores (Index of Community Socio-Educational Advantage)

Analysis of this data includes:

• Regional average and total contributions.

• Trends in contributions over time (2022–2024);

• Comparisons of financing for individual students; and • Associations between funding levels, school size, location, and ICSEA.

ACRA's My School database (for more demographic and financing information) and the Australian Bureau of Statistics (ABS) (for regional income profiles) are two more external data sources that might be utilised to supplement this dataset.

• Reports from the Victorian Department of Education provide background for policy.

## Selecting Business Problem

Main Business Problem and Research Question  
Which parental voluntary contributions to Victorian government schools vary by location, and how do these differences affect funding equity and contribution growth between 2022 and 2024?  
  
Problem   
What variances in voluntary parental payments do regional and metropolitan Victorian government schools have, and how do these differences impact funding equity and contribution growth between 2022 and 2024?

The Significance   
Different amounts of voluntary contributions can result in disparities in learning resources, technology, extracurricular activities, and student outcomes, even though government schools are intended to offer an equitable education. Students in remote and rural locations could not have equitable access to education if these institutions continuously receive less funding. Targeted solutions and more equitable funding strategies can be informed by an analysis of this problem.

## Data Evidence

Classifications of school regions and 2022–2024 contribution statistics are included in the dataset.

• According to preliminary study, North and West regions—which have more regional schools—lag, while East and South regions—which are primarily metropolitan—tend to receive higher contributions.

• Regional differences in contribution growth rates may eventually cause the equity gap to expand.

A graph of a graph

AI-generated content may be incorrect.

A two-year comparison of contributions reveals that many remote suburbs saw little to no growth, whereas most metro suburbs saw growth.

## Techniques to Investigate

To explore the research question and tackle the business problems identified, we will use a mix of quantitative analysis, statistical models, and visual tools. Each method will help us find patterns in the data and give clear insights into why there are differences in funding between schools in Victoria.  
  
1.Descriptive Analytics  
We will calculate the average, middle value, and spread of money donated by parents each year (2022–2024) and compare these values across regions (metropolitan vs. regional).  
This will help us understand how much money is coming in from different areas. For instance, looking at how much is donated in the East, West, North, and South regions will show us how unequal funding is between these areas (Business Problem 1).  
  
2.Growth Trend Analysis  
We will look at how much the donations have changed each year to see which regions are improving or staying the same.  
This will help us know if regional schools are catching up with metropolitan schools or falling further behind, offering evidence on whether the current funding system works (Business Problem 1 & 2).

A colorful circle with numbers and text

AI-generated content may be incorrect.

Focuses on the most recent year, when the dataset's largest funding disparity between wealthy metro suburbs and underprivileged rural areas occurred.

3.Regression Modelling  
We will use a statistical model to see how factors like region, school performance (ICSEA score), and how many students are in the school affect the amount of money raised. This will help us understand how much of the difference in funding is because of where a school is located or how advantaged the students are (Business Problem 2).  
4.Equity Impact Assessment   
We will compare the best-funded and least-funded schools based on factors like how many students a teacher has, access to technology, and the variety of programs available.  
This will show how funding differences affect the learning experience for students. This is especially important for understanding the issues faced by small schools in remote areas (Business Problem 3).

A graph of green bars

AI-generated content may be incorrect.

Shows that urban schools have a greater average growth rate than regional ones, which is a clear sign of a growing equity gap over time.

5.Geospatial Visualization  
We will use maps from Power BI to show where schools that get a lot of funding are located, as well as where schools with less funding are.  
This will help policymakers spot areas where support is most needed and plan interventions more effectively.

Contribution Originality  
Although previous studies have examined income-based disparities or ICSEA, this effort stands out for concentrating on regional differences in voluntary parental contributions over the course of three recent years. The study presents fresh perspectives on how geography affects school-level financial support in Victoria's public education system using both data and visual analytics.

A graph of a school

AI-generated content may be incorrect. A graph of blue bars

AI-generated content may be incorrect. A graph of a school

AI-generated content may be incorrect.

According to these data, the top-contributing schools mostly stay the same from year to year, and most of them are found in cities, indicating long-standing financial advantages.

## References

* Areed, W. D., Price, A., Arnett, K., Thompson, H., Malseed, R., & Mengersen, K. (2023, May 25). *Assessing the Spatial Structure of the Association between Attendance at Preschool and Childrens Developmental Vulnerabilities in Queensland Australia*. arXiv.org. Retrieved August 6, 2025, from https://arxiv.org/abs/2305.15746?
* Blanden, J., Doepke, M., & Stuhler, J. (2022, April 10). *Educational inequality*. arXiv.org. https://arxiv.org/abs/2204.04701?
* Gunawan, D., Griffiths, W., & Chotikapanich, D. (2021, August 29). *Inequality in Education: A comparison of Australian indigenous and nonindigenous populations*. arXiv.org. Retrieved August 6, 2025, from https://arxiv.org/abs/2108.12830?
* Morris, A. & Institute for Public Policy and Governance, University of Technology Sydney, Sydney, NSW, Australia. (2024). Inequality and education in Australia. In *The Economic and Labour Relations Review* (pp. 1–22) [Journal-article]. Cambridge University Press. https://doi.org/10.1017/elr.2024.18
* Rowe, E., & Perry, L. (2020, January 2). *Inequalities in the private funding of public schools: parent financial contributions and school socioeconomic status*. Figshare. Retrieved August 6, 2025, from https://dro.deakin.edu.au/articles/journal\_contribution/Inequalities\_in\_the\_private\_funding\_of\_public\_schools\_parent\_financial\_contributions\_and\_school\_socioeconomic\_status/24226381?
* Rowe, E., & Perry, L. B. (2019). Private financing in urban public schools: inequalities in a stratified education marketplace. *The Australian Educational Researcher*, *47*(1), 19–37. https://doi.org/10.1007/s13384-019-00328-0
* scheme=AGLSTERMS.AglsAgent; corporateName=Department of Education; address=50 Marcus Clarke St, Canberra City, ACT 2601; contact=+61 1300 566 046. (2025, July 29). *How schools are funded*. Department of Education. Retrieved August 6, 2025, from https://www.education.gov.au/schooling/how-schools-are-funded?

## Gen AI Appendix

The report utilized generative AI (ChatGPT by OpenAI) for concept creation, research structure, and academic language improvement. All outputs underwent thorough review and editing to ensure originality, data insights, and alignment with assessment standards. The ethical use of AI was as a tool to aid study, not as a substitute for analysis or critical thinking.