

**ECONOMIC ANALYSIS OF PROVIDING SUBSIDIZED PUBLIC TRANSPORT FOR WOMEN WITH  
REFERENCE TO RAMESH KAMAL V. STATE OF H.P. AND ANR.**

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**ABSTRACT**

*This case analysis aims to investigate the pros and cons of the “Nari Ko Naman” scheme launched by the Himachal Pradesh government offering subsidised bus transport to women across the state against which a petition was filed in Ramesh Kamal v. State of H.P (2022). This case study’s primary goal will be to critically analyse whether offering subsidised bus transport for women is a case of freebies or if it is a policy that is working towards empowering women and increasing their participation in the economy by incentivising them to pursue education and employment. This case study utilises primary data collected through an online questionnaire and secondary data such as research papers, government reports and news articles. Both qualitative and quantitative data were analysed in the process. This data is critically evaluated by employing various micro and macroeconomic tools, analysing the various features of the scheme brought into question before the court, similar global and Indian practices, and analysing substitutes to the existing scheme.*

**Keywords:** *Macroeconomics and law, gender-sensitive policies, social welfare, economic inclusion, subsidised public transport.*

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## **1. INTRODUCTION**

In this day and age where gender roles have no bounds, it is primarily in the hands of the government to provide a push to the disadvantaged section of the society with incentives that facilitate their participation in mainstream society. According to a study (Deshpande & Singh, 2021), the labour participation force of women in urban areas fell from 22% to 11%, between the period of 2016-2019. Himachal Pradesh has a mixed bag of statistics reported when it comes to the employment and education of women. It was noted by the World Bank that a significant restriction to women's employment and education is caused due to problems of mobility. With a 1.330 rating in the Gender Parity Index (as of 2021), Himachal Pradesh stands second in the nation only behind Kerala (Rajta, 2024). It is also reported that there is a higher rate of female enrolment in education due to changing attitudes. When it comes to employment, the Economic Survey (2022-2023) reports that 54.8% of Himachal Pradesh's women are engaged in some form of employment exceeding the national average of 37% (Sharma, 2024). Among these employed women, it was found that most of them were self-employed and only 11.9% of the women have regularised wages. The last statistic is a bit worrying and the government has also realised this a brought about a slew of schemes to build on the current positive trend and further reduce inadequacies in the states when it comes to women's education and employment observe that women outside the labour force identify obstacles such as lengthy, costly, and unsafe transportation as a barrier to participation in the workforce (Alam et al., 2021). It was observed that gender-specific schemes by the Government go a long way in reducing the mobility problems and encourage workforce participation as well (Kejriwal, 2019). This has resulted in the establishment of the "Nari ko Naman" scheme of the Himachal Pradesh Government, which provided for a 50% concession to the female passengers of the state buses. This scheme however was challenged in the Himachal Pradesh High Court in Ramesh Kamal Versus State of H.P. and Another. We aim to analyse the scheme; its legislative intent and the judgment addressing a petition against it by means of various economic tools.

## **2. LITERATURE REVIEW**

Chakravarthy, R., Seth, P in their analysis of Karnataka's Shakti Scheme, which offers free bus travel for women, they found increased mobility across the state (Chakravarthy et al., 2024). The paper also found increased financial savings, which helped alleviate the burden of household

expenses. It also found that women were able to access better healthcare facilities and even travel for leisure. One negative found was demoralising behaviour from conductors, bus drivers and other male passengers. Dasgupta, A., & Datta, A in their study on Delhi's Pink Slip Scheme, which offers free bus transport for women found weak overall evidence that the fare-free transit scheme improved female workforce participation, but found significant benefits for economically marginalized women who are the key target of the scheme (Dasgupta & Datta, 2023). Narayanan, S in her study on Tamil Nadu's free bus policy for women found increased participation of women as consumers, labour, and producers, with most of the study's respondents availing the scheme to access their workplace, to fulfil household errands and for leisure. They found increased visibility of women in public spaces (Narayanan, 2023).

### 3. RESEARCH METHODOLOGY

This paper employs an empirical qualitative research methodology, utilizing a questionnaire to gather responses from beneficiaries of the scheme. The collected data serves to substantiate the scheme's advantages, as discussed in the paper. Additionally, secondary data sources, are analysed to assess the implementation and effectiveness of similar schemes in other states to further corroborate our own findings.

The legal analysis of *Ramesh Kamal v. State of Himachal Pradesh* follows a doctrinal research approach, examining constitutional principles and judicial precedents to evaluate the socio-economic objectives realized through the judgment. Furthermore, the paper applies a law and economics framework to assess the judgment's impact on state policy, ultimately grounding its conclusions in legal-economic research.

### 4. BACKGROUND NOTE

#### *a. a. Nari ko Naman Scheme*

In July 2022, the Chief Minister of Himachal Pradesh, Mr. Jai Ram Thakur launched a welfare scheme by the name of "*Nari ko Naman*". The commencement of the scheme came right before the election of the state. This scheme targeted women and various accepts that affect them and public transport of the state. This scheme was coupled with certain other schemes which included the "Ride with Pride" scheme which aimed at increasing the posts for female drivers in the "Ride with Pride Government Taxi Service" in the Himachal Road Transport Corporation or the HRTC. What concerns us in this paper is the "Nari ko Naman" scheme where the government promised

to provide all the female passengers with a 50% concession in the bus rides intra-state (rides within the borders of the state). The government also reduce the minimum fare from rupees 7 to rupees 5 only. We aim to analyze this step of the government with economic and legal implications in the light of the case that followed, namely the *Ramesh Kamal v. State of H.P. and Another* (2022).

*b. b. Himachal Road Transport Corporation*

Founded in 1958, jointly by the Punjab and Himachal Pradesh Government along with the Railways, as the “Mandi-Kullu Transport Corporation”, the corporation got merged with the Himachal Government and was named as Himachal Road Transport Corporation in 1974. Himachal Road Transport Corporation is a state-owned corporation under the Himachal Pradesh government. It operates intra-state and Inter-state to provide bus services within the state and neighbouring states namely, J&K, Uttar Pradesh, Punjab, Haryana and Rajasthan. It has a head office and 4 divisional offices to ensure smooth functioning of services. This corporation has brought about multiple novel services such as a range of card schemes that not only provide users discounts but also an easier payment experience. The Corporation also allows for online booking of tickets.

## **5. FACTS OF CASE**

On June 7, 2022, the Himachal Pradesh government announced a notification that approved a 50% fare reduction for women traveling on ordinary intra-state buses run by the Himachal Road Transport Corporation (HRTC), starting July 1, 2022. This move built upon a previous announcement by the Chief Minister during the 75th Statehood celebrations, enhancing an existing 25% discount that had been offered since August 17, 2015. The notification provided for two limitations to the scheme which included 1. This was only applicable to intra-route bus routes of the HRTC and not to the inter-state route buses. And no additional discount would be provided to any women who as already claimed the 50% discount by the way of this scheme.

The contention of the petitioner, Ramesh Kamal, a private bus operator, was that this notification by the way of the discount provided for an arbitrary discrimination under the Article 14; by violating the equality provision of the Indian Constitution and in addition to it, it also adversely affected the private operators of the state financially. On June 18, 2022, in its 151<sup>st</sup> meeting, the HRTC Board approved this proposal. The State Government mentioned that this project would

incur a financial burden of a significant amount, which is ₹59.69 crores, which it planned on covering.

Kamal also raised issues about the HRTC not paying road taxes and questioned the legality of some concessional passes issued by the corporation. The case was initially brought by the Himachal Niji Bus Operators' Sangh but was later revised to be filed by Ramesh Kamal as an individual operator. The High Court of Himachal Pradesh heard the case, where various arguments were made regarding the government's notification's legality and impact, as well as the broader implications for transport policy in the state.

## 6. ISSUES

The central issues in this case concern the Himachal Pradesh government's notification granting a 50% fare discount to women traveling on HRTC's ordinary intra-state buses. They can be traced as stated below-

- i. Ramesh Kamal, the petitioner, claims that the fare discount creates an arbitrary distinction, violating Article 14 of the Constitution, which ensures equality under the law.
- ii. The petitioner argues that the concession negatively affects private transport operators financially by making it difficult for them to compete with the subsidized fares offered by HRTC.
- iii. There are concerns about the legal authority under which the government issued the notification, with the petitioner asserting that it exceeded its jurisdiction and violated the Motor Vehicles Act.
- iv. The petitioner points out that HRTC has not paid state road taxes since 2012, raising doubts about the legality of its operations and financial responsibilities.
- v. The petitioner challenges various promotional schemes and concessional passes provided by HRTC, arguing they are illegal and violate existing laws.

## 7. JUDGEMENT

The bench consisting of Justice Tarlok Singh Chauhan and Justice Virender Singh decided that offering concessions to specific groups is a policy decision made by the executive branch, and as long as it does not breach any laws, the court cannot intervene. Article 15(3) of the Constitution, provides for affirmative action in favour of the marginalized which permits the state to make special provisions for women and children. The object of Article 15(3) is to make up for the

economic and social losses suffered by the women of India, for centuries. Such an affirmative action, promised under the Fundamental Rights does not breach any laws.

The court acknowledged that the 50% fare discount for women passengers on HRTC ordinary intra-state buses, effective from July 1, 2022, was a legitimate policy decision by the state government. The state is covering the financial impact of about ₹59.69 crores. The court rejected the petitioner's claim that the discount violates Article 14 of the Constitution by creating an arbitrary classification. The court reiterated how Articles 14, 15 and 16 supplement each other to provide for provisions like in the present case.

The court reiterated that as long as the notification does not violate any laws, it cannot be overturned simply because it results in financial loss for the petitioner. The notification was issued by the government under Article 162, which grants the executive the powers to enact such a law.

It emphasized that providing a conditional travel discount to women in HRTC buses is a policy decision. The court also considered the petitioner's other concerns, such as HRTC's unpaid road taxes, concessional passes, and promotional schemes, but found no merit in these arguments.

## **8. GOAL OF JUDGEMENT**

The rationale of the judges was to enable the Directive Principles of State Policy which allows the state to make positively discrimination in favour of women. As discussed by the court, the goal was to achieve social inclusion of women by providing greater mobility and enabling them to use the subsidized transport for the purpose of education, employment, healthcare etc. So, the true intent of the judgement was to empower a weaker section of society by opening opportunities for them by means of subsidized transport, especially to working class women. It also has a complementary objective of improving standards of living because better opportunities mean families also become better off. But is the theme of social justice in line with being economically viable is something this case analysis will aim to find.

## **9. DATA INTERPRETATION**

A questionnaire was shared with 40 female residents of Himachal Pradesh to get an insight into the beneficiaries' demographics and analyse the policy's efficacy in empowering women and encouraging their participation in the economy. A mixture of qualitative and quantitative data was collected to further the goals of this research. We have compared the findings of this study with the larger-scale studies on the implementation of free buses for women in Tamil Nadu, Delhi and

Karnataka to see if there truly is value in implementing this scheme and also to compare and understand if free buses or Himachal Pradesh's subsidiary model is better.

*a. Table 1- Age*

AGE	FREQUENCY	PERCENT	VALID PERCENT	CUMULATIVE PERCENT
18-25	15	37.500	37.500	37.500
25-30	2	5.000	5.000	42.500
30-40	7	17.500	17.500	60.000
40-60	16	40.000	40.000	100.000
Missing	0	0.000		
Total	40	100.000		

*Table 1: Age*

*Source: Author's own creation*

Table 1 represents that out of the 40 people who responded to the questionnaire, a significant percentage of 40% belonged to the age group between 40-60. The next highest percentage noticed was the age group of 18-25 covering the around 37.5%. About 7% of the respondents belonged to 30-40-year age group, and the lowest percentage was noticed in the age group 25-30 with only 2%.

*b. Table 2- Educational Profile*

EDUCATIONAL PROFILE	FREQUENCY	PERCENT	VALID PERCENT	CUMULATIVE PERCENT
Bachelor's degree and above	29	72.500	72.500	72.500
High School	11	27.500	27.500	100.000
Missing	0	0.000		
Total	40	100.000		

*Table 2: Educational Profile*

*Source: Author's own creation*

Table 2 represents the educational profile of the respondents where 72.5% of the respondents have a bachelor's degree or above, whereas only 27.5% of the respondents have qualified high school.

*c. Table 3- Occupation*

<b>OCCUPATION</b>	<b>FREQUENCY</b>	<b>PERCENT</b>	<b>VALID PERCENT</b>	<b>CUMULATIVE PERCENT</b>
Farmer	1	2.500	2.564	2.564
Government employee	1	2.500	2.564	5.128
Health worker	1	2.500	2.564	7.692
Office employee	16	40.000	41.026	48.718
Professional	1	2.500	2.564	51.282
Self-employed (Eg. Small Business)	3	7.500	7.692	58.974
Student	16	40.000	41.026	100.000
Missing	1	2.500		
Total	40	100.000		

*Table 3: Occupation*

*Source: Author's own creation*

Table 3 represents the occupation of the respondents, where we find several different forms of employment. The most practiced occupation among the respondents has been noted to be “office employees” and “students” covering about 40% of the data set each. The next highest percentage is that of “self-employed” or small businesses who represent about 7.5% of the respondents. Occupations such as “farmers”, “government employees”, “health workers” and “professionals” represent about 2.5% each.

*d. Table 4- Purpose of travelling*

<b>PURPOSE OF TRAVELLING</b>	<b>FREQUENC Y</b>	<b>PERCENT</b>	<b>VALID PERCENT</b>	<b>CUMULATIVE PERCENT</b>
Education	10	25.000	25.000	25.000
Home in Himachal	1	2.500	2.500	27.500
Leisure	2	5.000	5.000	32.500
Personal Chores (shopping, health checkup)	10	25.000	25.000	57.500
Work	16	40.000	40.000	97.500
plus leisure	1	2.500	2.500	100.000
Missing	0	0.000		
Total	40	100.000		

*Table 4: Purpose of travelling**Source: Author's own creation*

Table 4 represent the purpose of travelling of the respondents by public transport. “Work” being the highest, covers about 40% of the total data set, followed by “education” and “personal chores” with 10% each. Around 7.5% of the respondents use it for “leisure”, and the next 2.5% use it to travel to their home.

*e. Table 5- Distance Travelled Daily*

<b>DISTANCE TRAVELLED DAILY</b>	<b>FREQUENCY</b>	<b>PERCENT</b>	<b>VALID PERCENT</b>	<b>CUMULATIVE PERCENT</b>
10-20 km	9	22.500	22.500	22.500
20-30 km	5	12.500	12.500	35.000
Less than 10km	20	50.000	50.000	85.000
More than 30 km	6	15.000	15.000	100.000

Missing	0	0.000		
Total	40	100.000		

*Table 5: Distance Travelled Daily*

*Source: Author's own creation*

Table 5 represents the distance travelled by the respondents daily using the public bus transport. 50% of the respondents travel less than 10km using the bus followed by 22.5% of the respondents travelling 10-12km, 15% travelling 30 km or more and 12.5% travelling 20-30km.

*f. Table- 6- Frequency of travel*

<b>FREQUENCY OF TRAVEL</b>	<b>FREQUENCY</b>	<b>PERCENT</b>	<b>VALID PERCENT</b>	<b>CUMULATIVE PERCENT</b>
Daily	15	37.500	37.500	37.500
Frequently	11	27.500	27.500	65.000
Occasionally	14	35.000	35.000	100.000
Missing	0	0.000		
Total	40	100.000		

*Table 6: Frequency of travel*

*Source: Author's own creation*

Table 6 represents how frequently the respondents use the bus to travel, of which 37.5% of the travellers use it daily, frequently used by 27.5% of the respondents, occasionally by 35% of the respondents. It is to note that all respondents have travelled using the bus.

*g. Table- 7- How satisfied are you with the scheme of subsidized bus fares for women?*

<b>HOW SATISFIED ARE YOU WITH THE SCHEME OF SUBSIDIZED BUS FARES FOR WOMEN?</b>	<b>FREQUENCY</b>	<b>PERCENT</b>	<b>VALID PERCENT</b>	<b>CUMULATIVE PERCENT</b>
Neutral	10	25.000	25.000	25.000
Satisfied	10	25.000	25.000	50.000

Very dissatisfied	2	5.000	5.000	55.000
Very satisfied	18	45.000	45.000	100.000
Missing	0	0.000		
Total	40	100.000		

*Table 7: How satisfied are you with the scheme of subsidized bus fares for women?*

*Source: Author's own creation*

Table 7 represents the satisfaction levels of women with the scheme. A majority of 45% have expressed 'very satisfied' with the scheme followed by 25% of respondents 'satisfied with the scheme, 25% 'neutral', 0 for 'dissatisfied' and 5% for very dissatisfied'.

*h. Table-8- Your monthly income as a scheme beneficiary*

<b>YOUR MONTHLY INCOME AS A SCHEME BENEFICIARY</b>	<b>FREQUENCY</b>	<b>PERCENT</b>	<b>VALID PERCENT</b>	<b>CUMULATIVE PERCENT</b>
Above Rs.15,000	17	42.500	42.500	42.500
Below Rs.5000	18	45.000	45.000	87.500
Rs. 8000-12000	1	2.500	2.500	90.000
Rs.12,000-15,000	3	7.500	7.500	97.500
Rs.5000-8000	1	2.500	2.500	100.000
Missing	0	0.000		
Total	40	100.000		

*Table 8: Your monthly income as a scheme beneficiary*

*Source: Author's own creation*

Table 8 represents the monthly income as scheme beneficiaries. Most number of respondents, 45% of them have a monthly income below Rs. 5,000, 42.5% of them having a monthly income of above Rs. 15,000, then 7.5% of respondents having a monthly income of Rs. 12,000-15,000 and 2.5% each having income of Rs. 8,000-12,000 & Rs. 5,000-8,000.

## i. Table-9- Where is the excess money saved from using public transport used?

WHERE IS THE EXCESS MONEY SAVED FROM USING PUBLIC TRANSPORT USED?	FREQUENCY	PERCENT	VALID PERCENT	CUMULATIVE PERCENT
Education	11	27.500	27.500	27.500
Food	15	37.500	37.500	65.000
Health	7	17.500	17.500	82.500
Leisure	4	10.000	10.000	92.500
Not significant	1	2.500	2.500	95.000
Nowhere	1	2.500	2.500	97.500
Saving Account	1	2.500	2.500	100.000
Missing	0	0.000		
Total	40	100.000		

Table 9: Where is the excess money saved from using public transport used?

Source: Author's own creation

Table 9 represents areas where respondents use the excess money saved from scheme. The largest area is food where 37.5% of the respondents use the money for, followed by 27.5% respondents using it in the area of education, 17.5% respondents use it in health, 10% in leisure, 2.5% for savings, 2.5% using it not significantly and another 2.5% using it nowhere.

## 10. ECONOMIC ANALYSIS

### a. Rational Consumer Theory

Black law's Dictionary defines it as "rational consumer theory is a concept in economics that assumes consumers will make choices that maximize their utility given their preferences, budget constraints, and the available information" (Nolan & Nolan-Haley, 2004). The biggest benefit of subsidised bus travel for a rational consumer would be the income effect it would have on women's finances. While there's no direct income change, the equivalent value of free transport might be considered additional disposable income, potentially affecting consumption patterns. According

to the World Bank, India has one of the lowest rates of female labour participation globally, with fewer than 25 per cent of women over the age of 15 employed as of 2022, down from 27 per cent in 2012.

In India, men often limit the financial opportunities available to women, and while many may oppose their wives working outside the home, free travel provides women with a new option. Although women are allowed to work, they often choose not to if the commute is too costly or unreliable. Governments that have implemented the program report its success and plan to expand it further (Yarlagadda, 2024). The rational consumer will also look for opportunity cost; The time saved on commuting can be seen as an opportunity cost for other activities. Focusing on savings made by women as a result of the combination of faster, more efficient, cheaper modes of transport allowing them to work and practice professions as per their liking and/or getting educated in areas further from their residence.

Another factor is rational families. The study on Tamil Nadu and Karnataka found that women were encouraged to go and sell goods produced by a family enterprise because there are cheaper transport costs associated. The women can also travel extra kilometres to another market if they weren't able to sell it all at the initial site. This is a boon for those selling perishable goods. For example, in a family of farmers, female members are encouraged to go and sell the produce at the Mandi. This provides next level empowerment.

A study by the CAG on the free bus scheme in Tamil Nadu showed that of the 2000 women interviewed, nearly 20% of them reported saving between Rs. 400 and Rs. 600 and another 20% said they saved between Rs. 600 and Rs. 800 per month. In our questionnaire, 40% of the respondents stated they saved more than 500 rupees a month, 16% reported savings from 100-500 rupees a month, 16% reported no significant savings and the rest stated that it was difficult to say. So, we can say that women as rational consumers of transport would pick buses over other modes of transport purely based on price.

#### *b. Preference shaping*

Preference shaping is a process of influencing consumer choices as a result of governments or organizations providing free goods and services. It is defined by the Nobel laureate Herbert Simon discussed "how organizations and institutions shape individual preferences and decisions through bounded rationality and satisficing behaviour" (Narayanan, 2021).

In the light of the case of *Ramesh Kamal v. State of Himachal Pradesh*, one of the expected effects on the consumers is reduced travel costs for women would lead them to relocate their income to other activities they would be interested in like education, and leisure activities that will contribute to the overall economy. Reliance on public transport will lead to encouragement to use it for daily commutes and as a result in lesser impact on car ownership and usage patterns.

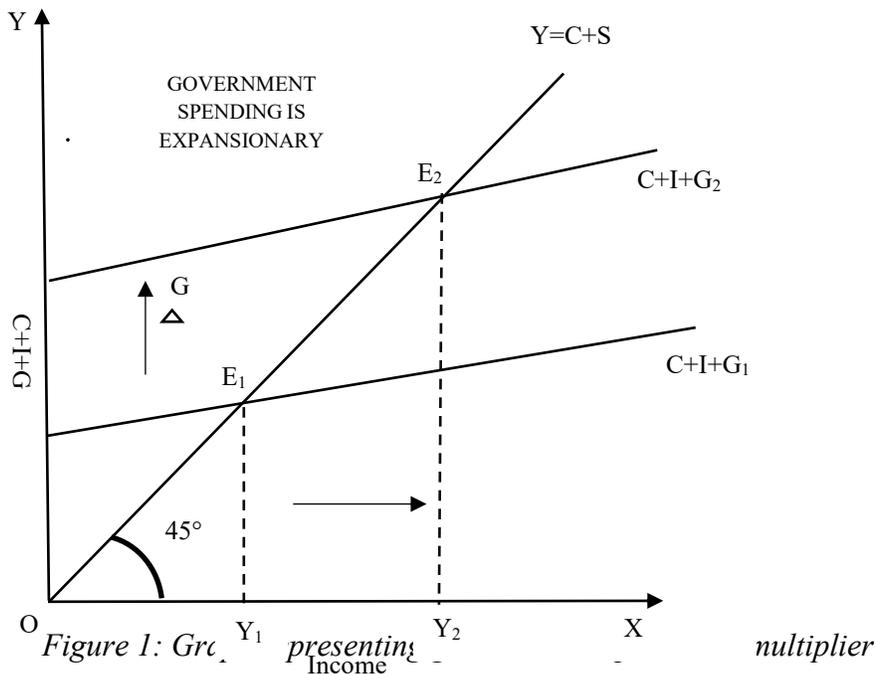
Along with financial freedom, women enjoy the social freedom they gain from the burden of transport getting reduced. There is a utility maximization that is seen from the earnings they have. Women might reallocate their time to other activities (work, education, leisure) due to the time saved on commuting. They also can be incorporated into the concept of trade-offs that are being done as a result of this subsidy. Subsidized bus transport could substitute other modes of transport (auto, rickshaw, walking), potentially influencing their usage.

CAG's study aimed to explore how women were utilizing bus services now that they were free. Nearly a quarter of the women surveyed mentioned that the scheme gave them the freedom to enjoy leisure activities, like visiting temples or spending time at the beach or in parks making them more active consumers. It became clear that, before the free bus initiative, the additional cost of transport would have prevented them from engaging in such activities (Narayanan, 2021).

Using incentives, policymakers “nudge” people or shape their preferences into following practices that are in line with policy goals are incentives and disincentives. The target group, in this case, women, are incentivized to opt for public transport to achieve multiple policy goals. One is to increase the participation of women in the economy, be it by selling their wares/produce or travelling for work. It could also be for future participation in the sense that more women can get access to better, higher education as they are no longer geographically restricted. The reasoning for a positive show in these indicators is the multiplier effect- because now they have additional disposable income with this extra income, workers will spend, at least part of it, in other areas of the economy.

From the questionnaire conducted and from results from studies conducted on the efficacy of free bus transport in Tamil Nadu and Karnataka we can see significant amounts of savings per month being made with most respondents reporting 500 or more rupees saved. They further reported that this money goes towards essentials like food, rent and utilities, or goes into education. This leads to a multiplier effect. One there is increased consumption by households because their spending power increases due to the bus subsidy. Another reason is spending on education which will lead

to increased productive capacity of the future labour. It also means that the children who get more money poured into their education and likelier to get better jobs, hence better pay and hence more consumption power. Subsidies empower and incentivise increased participation of women in the economy as consumers, producers and labour which not only benefits the women but also their families and the economy as a whole. Due to similarity in findings, it is highly probable that the success of Tamil Nadu and other states in involving women in the workforce can be replicated to at least some extent in Himachal Pradesh thereby creating positive economic change.



Source: Author's own construction

One argument against subsidized bus transport for women is that some people consider it a freebie policy saying that it will unnecessarily spend a lot of money on a scheme that does nothing for making buses safer which is of bigger interest. There is also the argument of overconsumption which will lead to distortion of market and prices further leading to inefficiency. One more argument in line with the previous arguments is that there is a possibility of households spending this additional disposable income on demerit goods such as lottery, alcohol or cigarettes. It is argued that it shapes consumers preference into one that increasingly relies on the states instead of on self. Taxes and government schemes especially in a welfare state like India, exist to make it a more equitable society for all which is exactly the purpose of the subsidized bus transport.

c. Coase Theorem

The Coase theorem suggests that, regardless of initial resource allocation, efficient outcomes can emerge through private negotiation when transaction costs are low (Coase, 1960). However, as Williamson notes, real-world transaction costs often prevent Coasian bargaining from occurring effectively (Williamson, 1981).

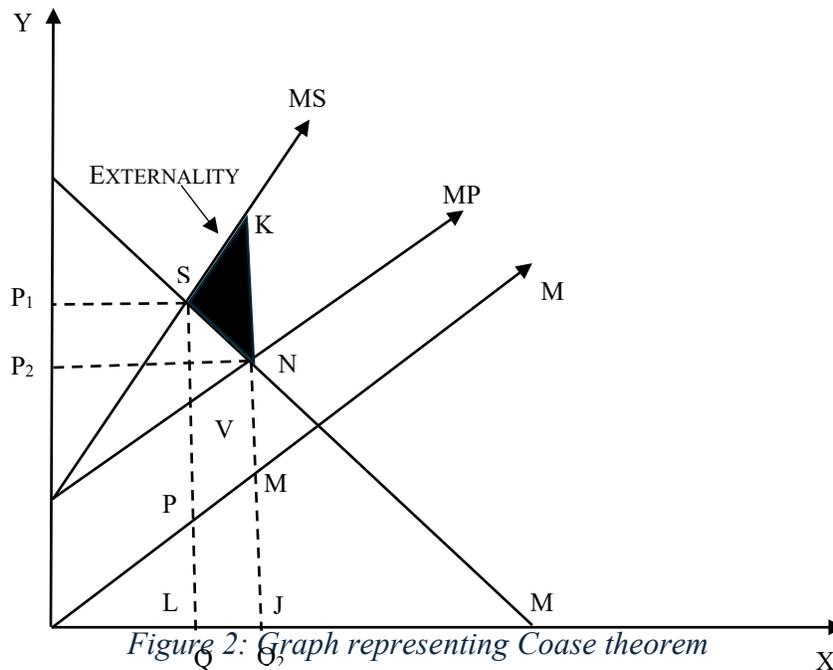


Figure 2: Graph representing Coase theorem

Source: Author's own construction

In this graph, MB represents the marginal benefit men get from using public transport. MPC represents the private costs of men for using the public transport which is the bus fare in this case. MD represents the marginal damage that women experience due to various factors. We then have MSC, or the marginal social cost, which is the addition of the costs of both male and female passengers. The triangle SKN represents the externality caused by the consumption of male passengers, which causes marginal damage to women. Multiple factors cause this externality, as discussed by multiple theorists. One factor is the temporal flexibility penalty as discussed by Claudia Goldin, wherein women disproportionately value temporal flexibility due to caregiving responsibilities, affecting their transportation needs and willingness to accept certain commuting

arrangements (Goldin, 2014). When women must arrange transportation around caregiving responsibilities, they face higher transaction costs in negotiating transportation solutions.

Another factor also highlighted by Goldin is the Pollution Theory of Discrimination, wherein women experience costs in the form of resistance when entering traditionally male-dominated spaces such as public transport at certain hours of the day which causes social friction as social and cultural norms create additional transaction costs when attempt to assert their rights in public spaces as observed by Dunckel-Graglia (Dunckel-Graglia, 2013).

Another significant issue causing costs for women is when it comes to getting their legal rights under anti-discrimination laws and other laws that protect women. Gekoski et al. observed that one reason for this is significant information asymmetries when it comes to knowledge of legal remedies when facing harassment or discrimination (Gekoski et al., 2015). Another cause is the disproportionately high costs of enforcing rights in public places on women due to sexism and institutional barriers, according to Gardner et al (Gardner et al., 2017). Goldin's Pollution Theory of discrimination also found that women face higher hurdles in establishing credibility when reporting harassment or unsafe conditions in public transport systems (Goldin, 2002). Croson, Rachel and Gneezy find that these gender differences in transaction costs significantly impact economic decision-making and outcomes, making Coasian solutions unattainable without intervention (Croson et al., 2009).

Which is why bus subsidies as a form of intervention will help reduce these externalities. By making travel cheaper, it incentivises more women to step out into the public sphere and thereby reduces the temporal flexibility penalty. This would also reduce the impact of the pollution theory of discrimination as rational families and employers encourage women to become active participants in the economy. This also seen in the findings of Goldin's Quiet Revolution, where it was noted that factors such as contraception, increased access to education, and women changed the way they viewed themselves which led to their increased participation in the economy (Goldin, 2006). While laws did not play the biggest role in this change in her studies, studies on free and subsidised bus transport in states like Tamil Nadu, such as the one by CAG, which we discussed earlier, point to a similar mindset in Indian women post this policy change. The same was reflected in our questionnaire as well.

By subsidising bus transport, it reassigns property rights to women and creates protected space where women have clearly defined rights, reduces transaction costs by eliminating the need for

individual negotiations by establishing institutional arrangements and internalised externalities by forcing the transportation system to account for the social cost (MSC) rather than just private costs. This will cause a reduction in externalities and create net social gain. By explicitly allocating property rights through policy intervention, the system moves from the inefficient equilibrium at  $Q_1$  to the socially optimal point  $Q_s$ , creating net social welfare gains.

a. Positive Externalities and Underconsumption

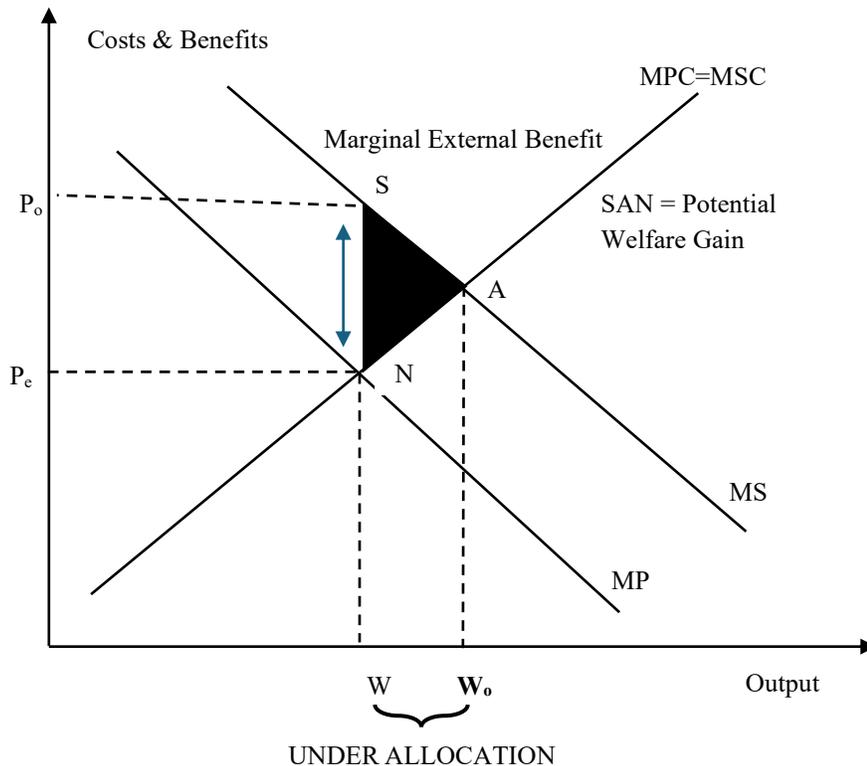


Figure 3: Graph representing government expenditure multiplier

Source: Author’s own construction

A positive externality is when an external third party benefits from a transaction unrelated to them. Figure 2 illustrates positive externality caused by subsidized buses. The Marginal Private Benefit (MPB) curve represents the direct benefit to consumers, while the Marginal Social Benefit (MSB) curve accounts for additional benefits to society from subsidized buses for women. The Marginal Private Cost (MPC) is assumed to be equal to the Marginal Social Cost (MSC) in this case, meaning production costs do not generate externalities.

In a free market, equilibrium is reached at point **N**, where **MPB** equals **MPC**, leading to an output level of **W<sub>e</sub>** and a price of **P<sub>e</sub>**. However, the socially optimal level of production occurs at point **A**, where **MSB** equals **MSC**, with a higher output level (**W<sub>o</sub>**) and a higher price (**P<sub>o</sub>**). The vertical distance between the MPB and MSB curves represents the Marginal External Benefit (MEB), which quantifies the additional benefits society gains from the consumption of the good. Due to this external benefit, the free market under allocates the good, leading to lost potential welfare, represented by the shaded triangle **SAN**.

While implementing the free bus transport scheme in Karnataka the government curated an economic analysis of the initiative. They identified 3 positive externality themes (MSB) which are the empowerment of women, reduction in road congestion and improvement in air quality, and improvement of women's overall safety is ensured by using public transport and ensures the security of all passengers (Mint, 2023).

One other externality is health. Due to severe air pollution and poor air quality in households in India, almost 100 million people are suffering from respiratory diseases, with 1 million people dying yearly due to asthma and COPD. A disturbing trend is how deaths owing to asthma have increased steadily over the years in India. This means the government will have to spend excess amounts of money on healthcare facilities. The expected cost of healthcare in India in 2019 was \$103.7 billion, according to statistics from the National Health Accounts of which a significant portion of spending is said to be due to air pollution caused ailments. Given that 11.5% of ailments in 2019 were caused by air pollution, treating illnesses linked to it is estimated to cost about \$11.9 billion (Prakash, 2021).

Another positive externality is a better public transport infrastructure. The Mohring Effect highlights that as more passengers utilize a public transport system, the system tends to expand by offering more frequent services or additional routes. This expansion benefits existing users, creating external benefits attributed to the new users. Such benefits result in user economies of scale, which, from a welfare economics perspective, suggest that fares should be reduced to reflect these efficiencies (Mohring, 1972).

Buses, as merit goods, are susceptible to underconsumption because there is information disequilibrium between service providers and consumers and because individuals are short-term utility maximisers. This underconsumption can lead to market failure, as the private market doesn't efficiently provide the good or service. This underconsumption is represented through the triangle

SAN in Figure 2. This inefficiency suggests a role for government intervention to address non-monetary incentives to further increase consumption of the bus subsidies for women. By closing the gap between  $W_e$  and  $W_o$ , policymakers can maximize social welfare and address the market failure caused by positive externalities.

The lack of awareness of this initiative can be seen as one reason for its underconsumption. A lot of women are still unaware of the benefits they can enjoy from using this scheme. Also, a reason for underconsumption is severe overcrowding in state buses due to bus shortage.

Despite fare subsidies, women's safety remains an issue which is another reason for underconsumption. A recent survey highlighted that women are hesitant to use public transport due to fear of harassment and assault. Metropolitan Transport Corporation (MTC) buses have both positive and negative aspects for urban women, says a gender perception survey conducted by the Greater Chennai Corporation (GCC). Of the women surveyed, 89% chose MTC buses as their primary mode of transport, while 82% said the state's free transport programme helped them save money and become more independent. However, 42% of the women who participated in the study said they had been sexually harassed on the bus, while around 35% said they had been sexually harassed while riding or at a bus stop (Omjasvin, 2023).

Another big issue is the lack of last-mile connectivity. Despite subsidized or free bus travel being available in multiple states the policy goals will not be achieved to full capacity unless last-mile connectivity is achieved, especially in rural areas. This issue was highlighted by a study on Karnataka's Shakti Scheme which found that most women travelled, on average, for over 10 kilometres one way ("Victoria Transport Policy Institute", n.d.). Addressing these issues will not only incentivize increased female participation in the workforce but will also nudge people into opting for public transport like buses instead of vehicles like cars, which will not only improve pollution levels but will also reduce road congestion further leading to faster commutes meaning increased economic productivity. In the case of Himachal Pradesh, it is found that 40% of villages in the state do not have proper connectivity, especially in far flung areas like Spiti (Singh, 2015). These issues result in severe overcrowding of buses which is yet another significant disincentive. Lesser pollution means higher costs incurred by the government in a variety of forms.

One more issue is the operation and scheduling of routes as found in a study on the efficacy of subsidised public transport in Bogota (Guzman et al., 2022). The study found the effect of the

subsidy to be vanishing due to changes in bus routes, which led to increased commuting time for users, which acted as a significant disincentive.

To avoid market failure because of underconsumption of the merit good buses, it required for the government to not only stop at incentivising bus travel by making it cheaper but also look at addressing the disincentives which are currently hindering consumers.

*b. Why Subsidies instead of Free Bus Transport?*

Hodge et al found that the free fares meant that increased customers did not mean increased revenue because of which the issue of overcrowding with arise. This issue was found in the studies conducted in Tamil Nadu and Karnataka. Because of this, Hodge et al recommend that public transport is not made free for all major cities and limiting free travel only in smaller towns or in off-peak periods (Hodge et al., 1994).

c. Opportunity cost analysis- Why not direct transfers?

Let's compare direct transfers and subsidies to see what each of them can achieve.

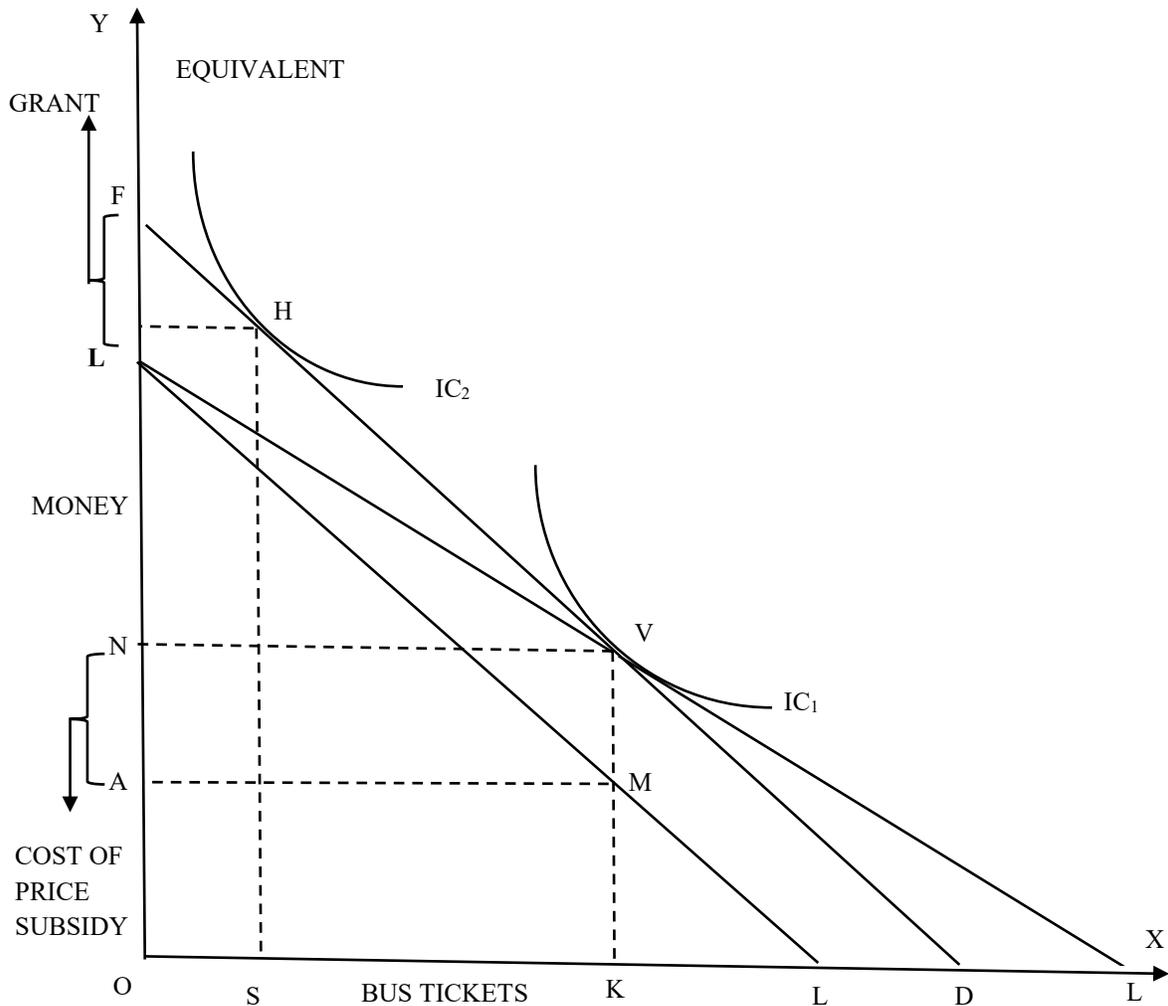


Figure 4: Graph representing lump sum cash grant is better than price subsidy

Source: Author's own construction

It can be understood from the graph that the individual with cash transfer must be better off and his bus consumption must be less as compared with price subsidy on tickets is because indifference curves being convex, the budget line **FD** obtained with cash transfer must intersect the indifference curve **IC<sub>1</sub>** at point **V** reached with the equivalent price subsidy. With a cash grant, the consumer's new equilibrium position must lie to the left of point **V** on the budget line **FD**, where it will be

tangent to the higher indifference curve than  $IC_2$ , as they are free to spend the money as per their choice. This indicates that in contrast to the equilibrium position under a price subsidy on tickets, the consumer will be better off from a lump-sum cash subsidy and fewer bus journeys will be taken. Cash grants can contribute more towards the development of individual welfare in a different way. Although both lump-sum cash transfers and commodity price subsidies raise an individual's income and make them better off, cash grants allow the individual to spend money on goods and services based on their tastes and preferences, ensuring a higher level of welfare than bus ticket subsidies, which enforce a particular pattern of consumption that favors travelling through buses. Because cash relief payments are more economically efficient and provide the government with either a larger benefit at the same cost or a lower cost, they appear to be superior to ticket subsidies. Cash transfers might also be preferred because the cost of a cash grant ( $FL$ ) is much lesser than the cost of the equivalent bus subsidy ( $NA$ ).

However, that is not the goal of the programme. It intends to incentivise increased participation of women in the economy. Providing a cash transfer might not satisfy this longer-term goal. It will be seen from Figure that with bus subsidy  $VM$ , the individual is having  $OK$  amount of bus tickets, whereas with equivalent cash payment of  $FL$  the individual purchases  $OS$  amount of bus tickets which is less than  $OK$ . It is apparent that consumption of bus travel will increase with subsidies than direct transfer.

## 11. PRACTICALITY CONCERNS

As per the Himachal Pradesh Government's recent Gender Budget, they have spent 8370 crore rupees on the Nari Ko Naman scheme for 2022-23 and expect to spend the same amount for 2024-25 as well. This amount might not be very viable in the long run or might increase, enlarging the burden on the government. Instead, there are a few ways to make expenditure of public bus transport cheaper.

One method is maximising the revenue generated from bus services such as advertisement placement on buses and bus stations and allowing for the utilisation of bus station spaces for other commercial activities and collecting rent for the same.

Another method is reducing expenditure by increasing reliance on paying through the various cards offered by the corporation as it encourages prepaid revenue and reduces reliance on daily ticket sales. This is important as it leads to operative efficiencies by eliminating the need for paper tickets,

manual inspection and related expenses. For example, London's Oyster Card lowered operational costs, enhanced service efficiency, and reduced fare evasion (Blythe, 2004).

Yet another method is utilising cluster bus model of Delhi. Cluster buses are buses operated under a public-private partnership (PPP) model, where the government contracts private operators to run services on specific routes while retaining regulatory control. In Delhi, a study found that cluster buses were cheaper than direct government-operated bus services. It was also found that cluster buses earned more revenue which according to the study could cover staffing and operational costs without requiring excessive government subsidies (The Economics Society, 2020). Therefore, prioritizing cluster buses over direct government-operated services presents a more cost-effective and financially sustainable approach to expanding public transport infrastructure. So here, the government could just be billed by the companies for the tickets of women instead of running the entire service by themselves.

A data-driven operational model can also make state-run bus transport more cost-efficient by optimizing routes, resource allocation, and revenue collection. Gurugram's 2018 bus service success highlights the benefits of technical analysis and passenger feedback in improving ridership (DFR, 2017). Intelligent Transport Systems (ITS) enable real-time tracking, predictive maintenance, and dynamic fare adjustments, reducing fuel wastage, maintenance costs, and unnecessary subsidies. By continuously analysing ridership trends, agencies can deploy buses efficiently and maximize revenue. Integrating ITS and data analytics ensures a sustainable, financially viable, and commuter-friendly public transport system adaptable to changing demands.

## **12. CONCLUSION**

From the above analysis, we can come arrive at one main takeaway, that subsidized bus transport for women is not a freebie. Instead, it is an investment to further not only the mobility of women in society in line with the Directive Principles of State Policy but to also induct a larger percentage of women into the economy as labour with increased spending power meaning they also become significant consumers. By directly providing women with a service, the government can direct them to perform more economically and socially desirable activities which ends up boosting the economy and increasing the tax revenue of the government in the form of direct taxes (by increased participation in the labour force) and indirect taxes (by higher consumption). To reduce the burden of the government in covering the subsidies, certain operational amendments can be taken to make

this a more viable option. Observing that the social benefits seem to be higher than social costs, we would like to conclude that subsidized transport for women in Himachal Pradesh is an efficient policy decision and that the Honourable High Court of Himachal Pradesh has also made observations and passed a judgement for Ramesh Kamal v. State of H.P. and Anr. along the same lines.

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