THE PAPER TITLE*

Your Name†
Department of Economics

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ABSTRACT

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Keywords: keyword 1, keyword 2

JEL Codes: J02, R10

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†Your address; Email: yourEmail@email.com.

1 Introduction

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2 Model

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Theorem 1 (Envelope Theorem)**.** *Only the direct effects of a change in an exogenous variable need be considered, even though the exogenous variable may enter the maximum value function indirectly as part of the solution to the endogenous choice variables. The proof is in Appendix B.*

The competition can be illustrated with the following graph with the implementation is presented in Listing 1:

Figure 1: This is a graph

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3 Comparative Statics

This is also demonstrated in Figure 1 and the results are presented in Appendix B.1b. Download this template at the Github repository.

Listing 1: Long short-term memory

```
class network_LSTM(nn.Module):
   def __init__(self, input_size=1, hidden_size=256, output_size=1):
      super().__init__()
      self.hidden_size = hidden_size
      self.lstm = nn.LSTM(input_size, hidden_size)

      # fully-connected
      self.linear = nn.Linear(hidden_size, output_size)

      self.hidden = (
         torch.zeros(1, 1, self.hidden_size),
         torch.zeros(1, 1, self.hidden_size)
      )

   def forward(self,vec):
      lstm_output, self.hidden = self.lstm(vec.view(len(vec),1,-1), self.hidden)
      prediction = self.linear(lstm_output.view(len(vec),-1))
      return prediction[-1]
```

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4 Empirical Results

We follow the approach from Harding and Lamarche (2019). Quisque facilisis auctor sapien. Pellentesque gravida hendrerit lectus. Mauris rutrum sodales sapien. Fusce hendrerit sem vel lorem. Integer pellentesque massa vel augue. Integer elit tortor, feugiat quis, sagittis et, ornare non, lacus. Vestibulum posuere pellentesque eros. Quisque venenatis ipsum dictum nulla. Aliquam quis quam non metus eleifend interdum. Nam eget sapien ac mauris malesuada adipiscing. Etiam eleifend neque sed quam. Nulla facilisi. Proin a ligula. Sed id dui eu nibh egestas tincidunt. Suspendisse arcu.

By using this approach, comparable results can be obtained (Chen, Esteban and Shum, 2013). To calculate the ELBO[3], we start from using the property of the KL-divergence. The data can be summarized by the tables with decimal alignment below:

Table B.1a: First Table

Category	Total	Shares (%)	Female	Male	Asian	Black/AA	His./Latino	White/Cau.	Zeros (%)
child care	19.39	0.08	12.32	20.12	23.14	63.78	20.24	19.00	0.07
eating	30.35	6.12	35.97	6.23	24.61	21.58	38.18	2.02	0.00
education	9.91	0.04	9.94	90.54	9.69	7.99	10.64	10.14	0.90
entertainment (not TV)	26.05	0.10	29.19	26.60	33.36	26.13	4.43	25.15	0.45

Note: This is the first table.

Table B.1b: Second Table

Category	Total	Shares (%)	Female	Male	Asian	Black/AA	His./Latino	White/Cau.	Zeros (%)
child care	19.39	0.08	39.32	40.12	23.14	18.78	20.24	19.00	0.07
personal care	13.92	0.06	24.00	23.14	16.12	1.76	15.15	13.66	0.00
sports/exercise	20.44	0.08	20.38	31.00	24.99	25.48	20.71	20.07	0.53
TV	28.61	0.12	48.47	9.93	2.35	63.70	29.22	80.20	0.46

Note: This is the second table.

[3] More information about the evidence lower bound (ELBO) can be found on the Wikipedia.

5 Algorithm

In the following, we present the algorithm:

Algorithm 1: Euclid's algorithm for finding the greatest common divisor of two nonnegative integers

function Euclid (a, b);
Input : Two nonnegative integers a and b
Output : $\gcd(a, b)$
if $b = 0$ **then**
  return a;
else
  return Euclid$(b, a \mod b)$;
end

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Table 2: Summary Statistics

	Cohort		
	2006	2007	2008
Students registered	1535	1584	1767
Gender (%)			
Male	61.1	64.5	57.7
Female	38.9	35.5	42.3
Race (%)			
White	43.3	43.4	40.6
Black	29.8	33.4	34.8

Note: Source: UCT Institutional Planning Department.

6 Conclusion

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

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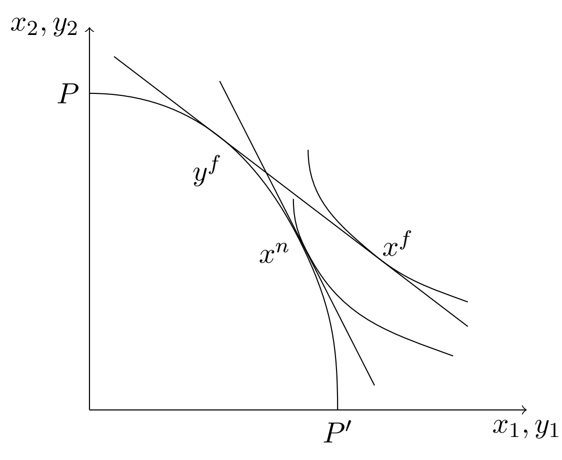
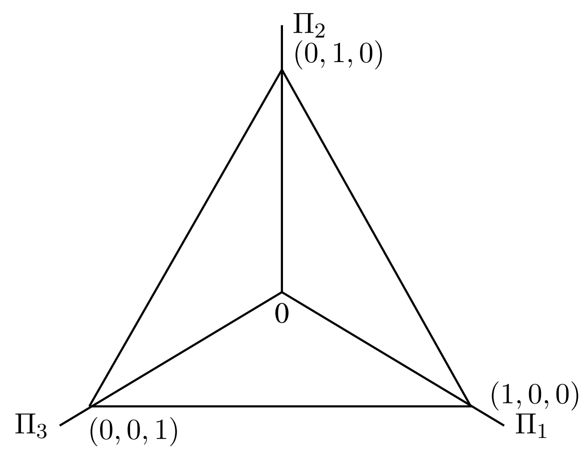
We graph with `tikz` in LaTeX:





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Appendices

A Additional Discussion

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B Proof of Theorem 1

We will proof the following equation:

Proof. Given y, x, Δ, ν, η, $\mathcal{L}$= $\begin{pmatrix} 1 & 2 & 3 & 4 & 5 \\ 3 & 4 & 5 & 6 & 7 \end{pmatrix}$, and $\prod = \begin{vmatrix} A & B & C \\ D & E & F \end{vmatrix}$, if

$$\begin{cases} \text{trade}, & p(\text{trade}) = \dfrac{y}{v} \\ \text{no trade}, & p(\text{no trade}) = 1 - \dfrac{y}{v} \end{cases}$$

then we get the following:

$$\begin{aligned} y &= \mathop{\mathbb{E}}_{\pi}\Big(\beta x + \epsilon\Big) \\ &\neq \sum_i \beta_i (\underbrace{\alpha + \xi}_{\text{variables}}) + \epsilon \qquad (1) \\ &\implies \int_0^{10} r\left(\frac{r}{50}\right) dr \overset{\text{text here}}{=\!=\!=} \frac{r^3}{150}\bigg|_0^{10}, \forall x \in (a, b) \qquad (2) \end{aligned}$$

So from $\widehat{ABCD}$, $\widetilde{ABCD}$, $\overset{\frown}{ABCD}$, $\overrightarrow{ABCD}$, and $\overline{ABCD}$, we get the desire <u>result</u>. ■

Consider $g(x) = f(x) - x$, since $f(x)$ and x are continuous, then $g : [a, b] \to \mathbb{R}$ is continuous. Then

$$g(a) = f(a) - a > 0,\ g(b) = f(b) - b < 0$$

By IVT: $\exists c \in (a, b)$ s.t. $g(c) = 0 \implies \exists c \in (a, b)$ s.t. $f(c) - c = 0 \implies f(c) = c$.