Economic Impact Analysis of Introduction of The Early Learning and Care System Proposed by Pascal for Ontario

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Summary

- Focus of C4SE report
- Synopsis of Pascal's proposals
- Effects of proposals on children and parents
- Lower fees and impact on ELC demand
- Available funding
- Short-term economic impact
- Long-term economic impact
- Conclusion

C4SE Report

- The Atkinson Foundation asked C4SE to do an economic impact analysis of the introduction of the early learning and care (ELC) system proposed by Pascal as of 2012-13
- The analysis highlights the short and long-term effects on the province
- The report also shows the impact on Toronto using a methodology that can be replicated for other municipalities
- Today's presentation will focus on the Provincial effects for 2012-13

Pascal Report Synopsis

- Pascal is proposing a number of complementary changes to ELC. Total effect would be greater than sum of parts
- Integrate services for 0-3 year olds and mothers into Best Start Child and Family Centres (CFC) under municipal managers in each area. Could expand CFC later
- Early Learning Program (ELP) for children 4-5 provided by school boards
  - Expand kindergarten from half-day to full-day
  - Provide extended day/year programming

Pascal Report Synopsis

- Extended day programming at request of 15 or more families for 6-8 and 9-12 year olds via school boards
- Early and more frequent screening and identification of special needs children
- Increase parent-educator partnerships
- Enhanced parental leave by 2020
  - Not examined because beyond focus of report
- To understand the effect of the proposals it is helpful to understand the effect of early learning on children and parents

Effects Of ELC On Children

- Effects on social outcomes generally found to be positive, especially for disadvantaged
- Effects on cognitive abilities generally found to be positive, especially for disadvantaged
- Mixed results for effects on socio-emotional development
  - Meta analysis suggest on balance quality ELC positive
  - Quality Important
- Parents have hard time assessing quality

Effects Of Extended Programming

- **Effective after school programs improve children's academic achievement by 0.3 standard deviation (SD), larger gains for disadvantaged children**
- **Summer school programs improves academic achievement by 0.14-0.25 SD**

Effects of Other Proposals

- Early identification and intervention of special needs children found to improve cogitative development by 0.5-0.75 SD
- Increased parental involvement improves educational outcomes by 0.5-0.6 SD
- Pascal proposed a major increase in wages, which should reduce turnover rates, admin costs and improve ELC quality

Effects of Other Proposals

- Not able to quantify all of these effects so the estimates are quite conservative
- Our analysis focused on the number of children and parents affected based on age cohorts and utilization rates
- Utilization rates estimated using economic approach looking at the change in fees

Effect of Proposals on Fees

- Parents directly pay nothing extra for full-day kindergarten (zero marginal cost)
- Parents pay reduced fees for extended day/year ELC for children 4-8
- Parents pay costs for ELC for 0-3. Fees not specified. There could be a rise in utilization over time via improved awareness, access & quality
- Parents pay the costs for extended day/year for 9-12. Fees and workforce composition not specified.

Effect of Fees on Demand for ELC

- Many factors influence demand for ELC
  - Family characteristics
  - Availability, accessibility and quality
- Higher fees reduce demand
- Higher mothers' wages increase demand
- Canadian parents very sensitive to price, less sensitive to wages
- Lower fees in Pascal proposals means there will be increased utilization rates.
- For fee based ELC there will be a larger increase in revenues and economic impact

Short-term Economic Effects

- Short-run impact measured by multipliers—GDP & Employment used
- GDP multiplier is the overall increase in GDP caused by a $1 increase in expenditure or output in a sector
- Employment multiplier is the number of jobs created per $million
- For the short-term analysis the dollar magnitude of the proposals important

Cost of Proposed Changes

- Pascal estimates costs for operations of ELP at $770-$990 million, we use $990
- Pascal estimates capital cost for classroom construction & renovation of $1.7-billion over 25 years, we assume spending is upfront to provide the needed space by 2012-13: $570 million
- Reallocate child services spending of up to $1 billion
- Transitional funding for municipalities – not specified

Funding for Proposed Changes

- Funding commitment from the Ontario government of $200 million in 2010, $300 million in 2011
- Reallocate up to $1-billion of children's service spending to municipalities
- Re-engineering of services provided by CFC to save costs
- $1-billion of new funding out of general revenues
- Parents' contribution for fee-based programs

Net New Spending – First Year

- Early learning program: $990 million
- Capital expansion: $570 million
- New parent spending on extended ELC based on lower fees, average estimate of parents sensitivity to fees & UK experience
  - 0-3s: $0 million
  - 4-5s: $150 million
  - 6-8s: $330 million
  - 9-12s: $0 million
- $60 million gain in net revenues
  - 6,420 subsidies for 0-3 or 9,710 for all ages

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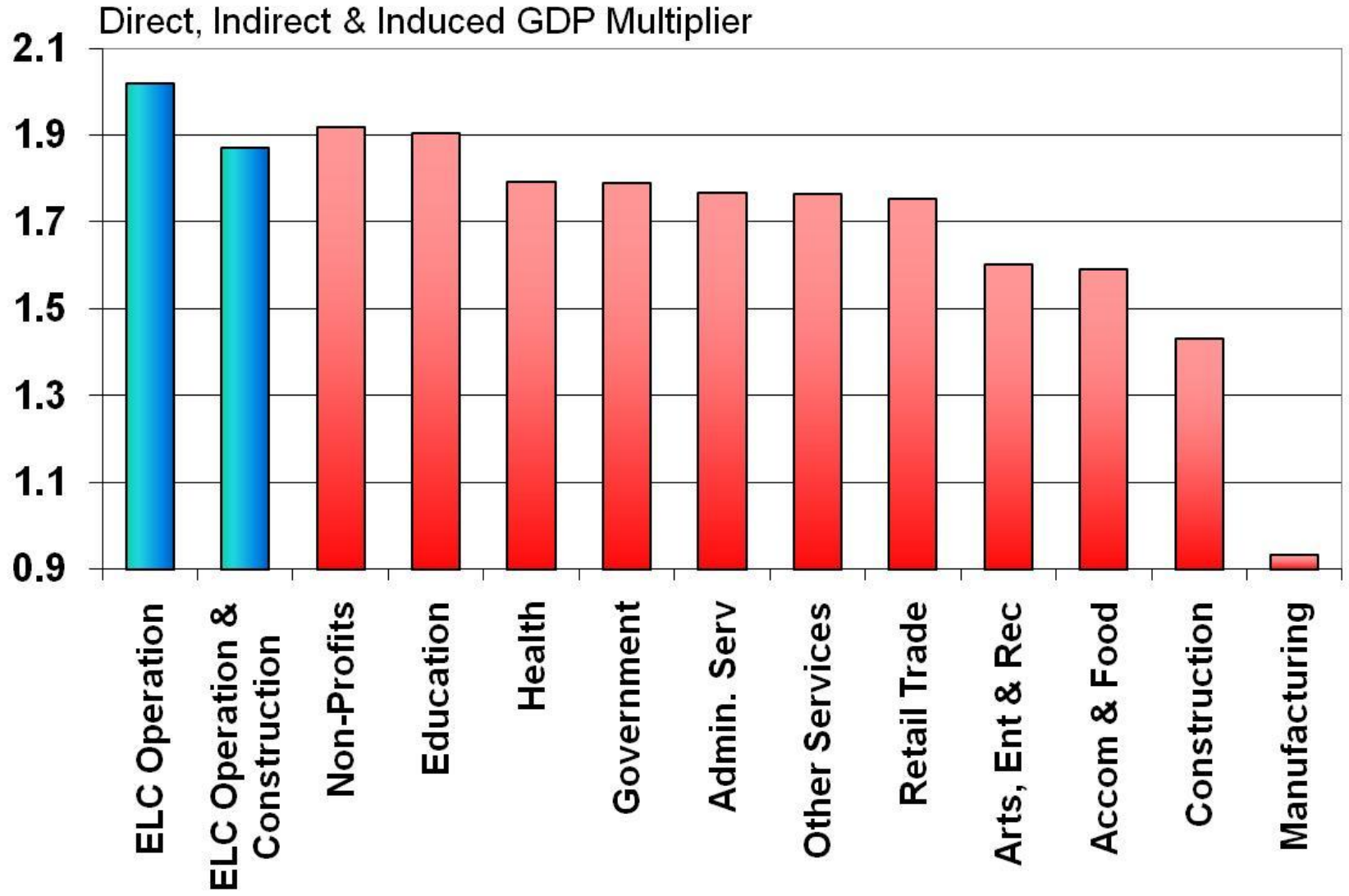
Short-term Impacts Results

- Gross Domestic Product multiplier
  - 2.02 dollars of increased economic activity per dollar spent
  - This multiplier takes into account the higher labour income of ECEs—lowers the induced multiplier effect via the MPC
- Employment Multiplier
  - 29 jobs per million dollars spent
  - This multiplier takes into account the higher wages that lowers the direct employment effect

Short-term Impacts –Capital Spending

- Gross Domestic Product multiplier
  - 1.47 dollars of increased economic activity per dollar spent
- Employment Multiplier
  - 20 jobs per million dollars spent

Short-term Multiplier of ELC>Others



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Economic Impacts Beyond Multipliers

- Short-term GDP multipliers tell only part of the story of the economic impact
- Research shows that quality ELC will affect educational outcomes (human capital)
- Impact labour supply of mothers
  - Participation rates
  - Average hours worked
  - Access to quality ELC can be more important than price
  - Access to extended day/year programming will have a significant impact on labour supply

Economic Impacts Beyond Multipliers

- Mothers' labour supply effect is immediate. But requires full day/year ELC to have an impact on full-time jobs
- Labour supply and human capital are supply side influences. Therefore Pascal's proposals will also impact long-term economic growth effects
- Long run Benefits and Costs were estimated based on a number of assumptions

Long Term Economic Impacts

- Benefits
  - Children
  - Parents/Mothers
- Costs
  - Labour and non-labour
  - Cost savings
- Hours
- Benefit cost ratio per hour =
  (benefits/hours)/(costs/hours)

Hours

- Utilization rates
  - Higher in new system
- Number of children
- Number of annual hours per child
  - Wrap around care and summer hours
- Child-staff ratios
  - Fewer staff hours than child hours

Costs and Cost Savings

- Costs
  - Hourly staff costs
  - Non-staff labour costs
  - Non-labour costs
- Cost savings
  - 0.63 informal spaces replaced by one formal space
  - Costs of old system
  - Flipside: lost benefits from old system

Benefits – Children

- Uses key results → Abecedarian program
- Adjusts to average Ontario child

Table C.3 - Adjustments to Reflect Average Versus Disadvantaged Cohorts				
	Participants	Control	Difference	Adjusted Difference
Grade retention rate	31%	55%	-44%	-24%
Years in special education	1	1.5	-33%	-18%
Smoking rates	39%	55%	-29%	-16%
High school dropout rate	33%	49%	-33%	-18%
Math score (Woodcock Johnson)	93	82	13%	7%

Benefits - Children

- Future earnings
  - Detailed human capital growth model
  - Accounts for 75% of child benefits
- Health benefits
  - Decreased smoking increases lifespan
- Education savings
  - Grade retention
  - Special education

Quality adjustment

- Try to capture quality → intangible
- Methodology
  1. Link benefits to test scores
  2. Link test scores to processed quality
  3. Link processed quality to structural quality
- Child-staff ratios
- Staff Education

Benefits - Mothers

- Earnings
  - Immediate increase from having child in ELC
  - Future productivity led increase from higher work experience
- Education
  - 20% of parents in education
  - 2.4% of these drop out due to lack of high quality child care
  - Growth model

Benefit-Cost Ratio

- **Benefit-cost ratio varies from 2.42 in Ontario to 2.21 in the GTA.**
- **Hourly benefits ~$5 higher than costs**

Table 17: Summary of Costs and Benefits from ELC	Ontario	GTA	Toronto
NPV hourly costs of early learning	$5.52	$5.64	$5.63
NPV hourly costs savings on informal child care	-$1.57	-$1.53	-$1.58
NPV hourly net cost of early learning	$3.95	$4.11	$4.05
NPV hourly net benefits mothers/parents	$7.69	$7.79	$7.73
NPV hourly net benefits children	+$1.88	+$1.28	+$1.34
NPV hourly net benefits from early learning	$9.56	$9.07	$9.07
Benefit-cost ratio of early learning	2.42	2.21	2.24

Growing Importance of ELC

- Ultimately the impact of the proposed changes to ELC depends on the number of children and parents who are affected
- The demographic projections produced by the Ontario Ministry of Finance in the fall of 2009 show that there will be a sizeable increase in the number of children in the affected age cohorts
- There are notable differences across the province

Number of Children (2006 Census)

- Ontario
  - 1,876,555 (0-12) & 272,690 (4-5)
- Ontario outside GTA
  - 990,230 (0-12) & 142,725 (4-5)
- GTA
  - 886,330 (0-12) & 129,965 (4-5)
- Toronto
  - 353,820 (0-12) & 52,145 (4-5)
- GTA Outside Toronto
  - 532,510 (0-12) & 77,820 (4-5)

Increase in Children 0-12 2006-2036

- Ontario
  - +31.4%
- Ontario Outside GTA
  - 13.0%
- GTA
  - +53.5%
- Toronto
  - +21.5%
- GTA Outside Toronto
- +71%

Source: Ontario Ministry of Finance

Conclusion

- Pascal's proposals have significant short, medium and long-term economic effects
- Short-term stimulus:
  - 2.02 per dollar spent for operations
  - 1.47 per dollar for the capital spending
  - 1.87 per dollar of overall spending in 2012-13
- Multiplier > than most other industries
- Multiplier > than short-term impact from increase in taxes to pay for proposals

Conclusions

- Number of children receiving early learning would rise by 139,200 in 2012-13
- $60 million gain in net revenues provide 6,420 subsidies for 0-3 or 9,710 for all ages
- The long-term benefits to the economy are estimated to be 2.4 for every dollar invested
- Important to note that short- and long-term estimates were calculated using conservative assumptions
- Benefits probably larger than because the whole likely greater the sum of the parts

Conclusions

- Demographic projections show that the number of children needing ELC will expand quickly
- Therefore the net economic benefits to society from changing the ELC system will be magnified by these demographic trends