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Review of Sapere Report
Evaluating the New Zealand Screen Production Grant
(December 2017)

Thank you for the opportunity to review the report by Sapere Research Group on evaluating the New Zealand Screen Production Grant (NZSPG). As discussed the scope of the review addresses the following questions:

1. Does the methodology lead to robust results, notably with regard to:
    - Economic effects and the counterfactual
    - Fiscal effects
    - Indirect effects, also described as spillovers
    - Industry development – its size & sustainability
2. Do the conclusions follow from the evidence?
3. Has the report answered the questions it sought to answer?

Note that this is not an audit of the report – calculations have not been checked.

Robustness

Economic Effects

I have no issues with the calculation of the gross additional economic benefit of $542m, nor with the high and low estimates that implicitly surround it, based on the uncertainty around the additionality assumptions – albeit of course that interviewees and survey respondents have a vested interest in maximising the amount of activity that is deemed attributable to the NZSPG. The underlying assumptions seem reasonable and the error margin should span plausible changes in those assumptions. Sapere's warnings about time lags and possible survey bias and misinterpretation are well made and sensibly addressed.

My main concern by far is with regard to the counterfactual – both aspects of it (Section 8 and Appendix 3).

Firstly with respect to the first method of calculation for the 'no grant counterfactual' there is no basis for assuming that $1 of subsidy would produce 31c of value added elsewhere in the economy. Even if that was conceptually a reasonable approach the ratio of value added to sales looks too low, likely being distorted by how sales are measured in the retail and wholesale industries. The 2012/13 input-output table shows a value added to gross output ratio of about 51%. Sapere rightly ignore this method.

However, the second method is also inappropriate. The Treasury fiscal multiplier relates to the short term effect of a temporary government injection, assuming excess capacity in the economy (and leading to lower output in the future). The output gap and the phase of the business cycle are irrelevant and should not come into the evaluation. If the government wished to manage aggregate demand over the business cycle it would probably not look to the NZSPG as a macroeconomic tool.

With regard to the other aspect of the counterfactual, namely where those resources (labour and capital) might have been used if they weren't used in the film and television industry, it is also far too focussed on short term effects, noting for example (p21) that some people in the industry would not be able to easily find other employment, or would find employment at a lower wage rate. This ignores the more relevant medium term counterfactual under which fewer people would enter the industry in the first place. They might then work in unsubsidised industries. Similarly with regard to investment in plant and equipment. The assumption of a 50% opportunity cost is essentially arbitrary as well as being theoretically inappropriate.

Hence although the $542m is plausible, the $467m which adjusts for the first aspect of the counterfactual and the $371m which incorporates both aspects of the counterfactual, are not reliable. The low-high range may or may not span the true net value. We simply do not know.

Sapere themselves state that the estimation of the counterfactual is "more speculative" (p6), but this warning should receive much more emphasis especially in the Executive Summary.

A better way to estimate the counterfactual is with a General Equilibrium (GE) model. With such models a government subsidy for a particular industry (in this case film and television etc) can be compared with either the same level of funding to some other industry or, preferably, compared to a situation of no subsidy at all, with concomitantly lower tax rates on households (which incidentally also captures the deadweight loss effect – see below) and expansion by non-subsidised industries.

Although a GE model is not a model of everything – it does not include existence values for example – because it allocates resources as a function of consumer preferences and relative prices it is well-suited to assessing the counterfactual of alternative government policies.

Fiscal Effects

The calculation of fiscal effects is generally fine, but the inclusion of deadweight loss here is not valid. The arguments about deadweight loss (p108) are correct, but it is manifested in the wider economy. It belongs in the benefit calculation as it is a welfare loss. It should not be subtracted from a fiscal flow.

Industry Development

Wider economic impacts aside, it seems abundantly clear that the NZSPG (and the LBSPF before it) has contributed greatly to the development of the film and television industry and all of the associated activities. The sustainability of the industry is a different issue.

Given the international emphasis on cost, so comprehensively discussed in the report, the idea that the domestic industry could grow just on the basis of New Zealand's landscapes, facilities, labour skills etc, but notably without any subsidy, is clearly optimistic. The question then is for how long will a subsidy be required. One is reminded of the 'infant industry' argument – provide a subsidy while the industry is establishing and trying to achieve critical mass, and eventually it will be self-sustaining and contribute to the development of associated (high wage) industries. New Zealand has experienced many cases of such an argument – think of the motor vehicle assembly industry.

The findings in the report point strongly to the ongoing need for a subsidy (in some form), if the industry is to persist, but if it's net economic (GDP) benefit is marginal the longer term justification of the subsidy depends on indirect benefits such as skills development, technology transfer, tourism and cultural benefits.

Indirect Effects and Spillovers

Sapere do not attempt to quantify spillover effects which is entirely understandable, given the difficulty of doing so within the ambit of the research project. Nevertheless the case for significant spillover effects is well articulated with many examples covering a range of industries and skills, including in relation to the 5% bonus subsidy.

These spillovers strengthen the argument for continuing with the NZSPG, as do the perceived cultural benefits. Putting the subsidy into perspective one might well say, to quote an earlier Infometrics report on the screen industry when referring to the LBSPF and other industry subsidies:

> *All of these* [various industry subsidies] *pale in comparison to the amounts in excess of $1 bn per year associated with the allocation of units to producers in relation to carbon emissions.*[1]

Nevertheless it does raise the question of whether those spillover benefits could not be better secured by other policy interventions. That issue is beyond the scope of the report.

Do conclusions follow evidence?

Overall the conclusions do follow from the evidence even considering the very tenuous estimates of the counterfactual.

[1] Infometrics (2011) *Estimates of the contribution of the screen industry to the New Zealand economy*. Report for Film New Zealand.

Has the report answered the questions it sought to answer?

Again the only major point is around the counterfactual so the question of whether the net economic benefits are worthwhile has only a provisional (affirmative) answer. With regard to the other questions such as whether the subsidy has encouraged production, developed resilient businesses, created New Zealand stories, assisted in show-casing New Zealand to the world, raised exports and so on, the report has addressed them in an appropriate degree of detail which has led to well-argued positions.

There is also good discussion about cultural value and audience size requirements, as well as some excellent points around the problems that can arise when the criteria for receiving a subsidy are defined too narrowly or inappropriately for the intended target. Examples relate to the definition of a 'New Zealand story' and patents versus other ways of protecting IP.

Minor points

- P16: Does fx denote special effects? Also does VFX denote visual effects?
- P18: It is not entirely clear how the 91.6% is derived, but I may have missed something.
- P36: If the $542m is approximately the contribution to GDP and employment is 8180 of whom 91% are domestic, the contribution per local person is about $72,800. This is consistent with earlier findings for the industry,[2] providing some extra confidence in the $542m.
- P37: Is the reason that the number of workers in Table 13 does not add to 8180 due to the absence of PDV or is there a conceptual difference in the measures?
- P41: I am not sure about the definition of GDP in relation to foreign labour. My recollection is that the issue is how long people are in New Zealand. However, the issue is probably not material.
- P43: I am not surprised at the failure to successfully estimate an econometric model as it is impossible to impose an equation specification with the correct dynamics, given the paucity and quality of data. I would not pursue this line of research.
- P45: Probably best not to refer to a 'sales tax' as there isn't one in New Zealand.
- P46: Repeated paragraphs.
- P69: Does SKU denote stock keeping unit?
- P83+: Some of the effective sample sizes for the survey are rather small, so the contingent valuation results should be considered as broadly indicative rather than robust.

[2] Infometrics op cit

- P96: It is noted that for labour costs to be in proportion to employment, the same average wage rates should apply. It could be mentioned in the report that the same number of average working days per person is also required, but given discussion elsewhere in the report it is possible that these two components could be somewhat offsetting. That is, New Zealand workers may be on a lower average wage rate, but work more days.

Generally speaking the report is comprehensive, easy to read and represents value for money. Assessing the net benefits of industry assistance is never simple so it is inevitable that some benefits will be less precisely estimated than others. As discussed above the only significant weakness is the estimation of the counterfactual. It would be unfair to ask Sapere to amend this part of the report, given that Sapere undertook only to "explore the inefficiencies likely to be associated with a subsidy of this nature...", but it should be an issue for the Ministry to follow up next time a review of the NZSPG is undertaken.

I am happy to discuss any aspect of the above and certainly to amend any comments that could reflect misunderstandings of the report on my part.

Yours faithfully

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