The impact on the Australian economy of the closure of GMH production facilities in Australia

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Objective

The objective of the study is to assess the impact of the closure of General Motors Holden (GMH) production facilities in Australia.

The methodology

The study was undertaken using NIEIR's quarterly econometric model of all Australian Local Government Areas (LGAs). The model is a fully integrated input-output inter-regional trade flow model. The model has 49 industries per LGA.

The technical status of table results

The results in Table 2 are the difference between two model runs over the 2013.2 to 2020.2 period. One run has GMH continuing production to 2020.2, while the other run has GMH ceasing production at the end of 2015. That is, zero GMH production from 2016.1 onwards.

What would otherwise have been the case?

The information in Table 2 is the difference between two model runs, namely what would have been GMH's production if it continued on in Australia compared to the case at the time of closure and the years following closure. Currently, the direct impact of GMH closure will impose a negative annual shock to the Australian economy of at least $4 billion in 2011 prices. However, by 2016 the exchange rate could have fallen significantly and the market share of domestic motor vehicle manufacturing could well have recovered to approach mid-2000 decade levels. In this case the negative shock to the economy will be of the order of at least $6 billion.

It can be seen from the table that the direct impact on the Australian motor vehicle industry reaches $6 billion after a year or two of closure. However, the additional production losses are mainly due to the undermining of the economics of motor vehicle parts manufacture, leading to increases in import penetration and loss of exports for motor vehicle parts companies.

Therefore, if the motor vehicle industry was to recover by between 30 and 50 per cent over the 2015 to 2018 period, as a result of the motor vehicle industry recovering some of the lost market share over the last decade, then the cost to the economy in the tables of GMH demise would be similarly under-estimated. That is, total economy-wide employment losses could be in excess of 90,000 by the 16th quarter after closure.

The technical status of results

The technical status of the results is Type II multiplier results. That is, multiplier results on the economy capturing:

(i) inter-industry flow-on effects; and

(ii) income-household consumption flow-on effects.

However, Social Security offset effects are incorporated. That is, newly unemployed households receive Social Security benefits which reduce the income-consumption flow-on effects. This is why the aggregate multiplier in the table of 1.27 (or national GDP divided by the loss in motor vehicle production) is relatively low. The other reason why the multiplier is low is due to the current relatively high import content of domestic production.

Type II multiplier results imply that the following remain constant before and after plant closure:

(i) investment;

(ii) interest rates; and

(iii) exchange rates.

Plausible variations in (i) would increase the negative results, while variations in (ii) and (iii) could reduce the negative results.

The costs of the closure of the industry

If all motor vehicle manufacturers were to exit by 2017 or 2018, then an approximate estimate of the loss to the economy would be obtained by multiplying the results in Table 1 by 2.5 to 3.0. After four years from the date of closure annual National GDP will be reduced by $8 billion from what otherwise would have been the case while national employment will be 65000 below what otherwise would have been the case.

Table 1 GMH Closure: Type II multiplier with Social Security offsets

				Number of quarters after closure				
				1	3	7	10	16
Industry employment								
NSW	1	Industry employment	number	-2766.8	-8552	-10484	-13237	-15280
VIC	2	Industry employment	number	-12877.8	-15758	-19964	-21802	-23850
QLD	3	Industry employment	number	-1111.0	-4220	-5631	-7068	-8284
SA	4	Industry employment	number	-6591.6	-8638	-9831	-10327	-11688
WA	5	Industry employment	number	-787.5	-2255	-2808	-3450	-3967
TAS	6	Industry employment	number	-119.0	-575	-639	-835	-916
NT	7	Industry employment	number	-31.3	-191	-243	-303	-349
ACT	8	Industry employment	number	-38.2	-378	-552	-790	-1022
		Total	**number**	**-24323.3**	**-40566**	**-50152**	**-57811**	**-65357**
Total hours of work								
NSW	1	Total hours of work Industry - total	ths	-1284.6	-3809	-4597	-5761	-6591
VIC	2	Total hours of work Industry - total	ths	-5874.7	-6948	-8705	-9424	-10254
QLD	3	Total hours of work Industry - total	ths	-526.8	-1878	-2467	-3058	-3552
SA	4	Total hours of work Industry - total	ths	-2909.9	-3674	-4116	-4295	-4861
WA	5	Total hours of work Industry - total	ths	-386.0	-1042	-1277	-1552	-1769
TAS	6	Total hours of work Industry - total	ths	-54.0	-237	-263	-339	-371
NT	7	Total hours of work Industry - total	ths	-15.6	-89	-113	-141	-162
ACT	8	Total hours of work Industry - total	ths	-16.1	-151	-220	-313	-404
		Total	**ths**	**-11067.7**	**-17827**	**-21757**	**-24883**	**-27963**

Table 2 Type II multiplier with Social Security offsets (continued)

				Number of quarters after closure				
				1	3	7	10	16
Motor vehicle industry employment								
NSW	1	Industry employment	number	-1072.6	-1471	-1571	-1612	-1614
VIC	2	Industry employment	number	-6338.3	-7902	-8123	-8265	-8264
QLD	3	Industry employment	number	-517.6	-837	-885	-914	-919
SA	4	Industry employment	number	-3265.0	-3489	-3542	-3537	-3753
WA	5	Industry employment	number	-485.8	-664	-699	-728	-743
TAS	6	Industry employment	number	-46.2	-81	-84	-85	-84
NT	7	Industry employment	number	-17.7	-30	-31	-33	-32
ACT	8	Industry employment	number	0.0	0	0	0	0
		Total	**number**	**-11743.2**	**-14474**	**-14937**	**-15175**	**-15409**
NSW	1	GRP (headline) at factor cost	$2011m (multiply by 4 for annual rate)	-87.6	-306	-364	-459	-525
VIC	2	GRP (headline) at factor cost	$2011m (multiply by 4 for annual rate)	-372.3	-440	-570	-616	-676
QLD	3	GRP (headline) at factor cost	$2011m (multiply by 4 for annual rate)	-34.7	-129	-170	-211	-245
SA	4	GRP (headline) at factor cost	$2011m (multiply by 4 for annual rate)	-213.0	-280	-310	-324	-364
WA	5	GRP (headline) at factor cost	$2011m (multiply by 4 for annual rate)	-27.7	-86	-106	-132	-152
TAS	6	GRP (headline) at factor cost	$2011m (multiply by 4 for annual rate)	-3.6	-18	-21	-27	-29
NT	7	GRP (headline) at factor cost	$2011m (multiply by 4 for annual rate)	-1.3	-7	-10	-12	-14
ACT	8	GRP (headline) at factor cost	$2011m (multiply by 4 for annual rate)	-1.4	-14	-20	-29	-37
		Total	**$2011m (multiply by 4 for annual rate)**	**-741.6**	**-1281**	**-1571**	**-1809**	**-2041**

Table 2 Type II multiplier with Social Security offsets (continued)

				Number of quarters after closure				
				1	3	7	10	16
Motor vehicle production								
NSW	1	Total output	$2011m (multiply by 4 for annual rate)	-106.3	-146	-156	-160	-160
VIC	2	Total output	$2011m (multiply by 4 for annual rate)	-635.3	-784	-805	-819	-820
QLD	3	Total output	$2011m (multiply by 4 for annual rate)	-46.6	-75	-80	-82	-83
SA	4	Total output	$2011m (multiply by 4 for annual rate)	-409.5	-438	-445	-445	-471
WA	5	Total output	$2011m (multiply by 4 for annual rate)	-38.5	-53	-55	-58	-59
TAS	6	Total output	$2011m (multiply by 4 for annual rate)	-2.9	-5	-5	-5	-5
NT	7	Total output	$2011m (multiply by 4 for annual rate)	-1.8	-3	-3	-3	-3
ACT	8	Total output	$2011m (multiply by 4 for annual rate)	0.0	0	0	0	0
		Total	**$2011m (multiply by 4 for annual rate)**	**-1240.9**	**-1504**	**-1550**	**-1572**	**-1602**
NSW	1	Total private consumption expenditure including international imports	$2011m (multiply by 4 for annual rate)	0.0	-64	-139	-218	-297
VIC	2	Total private consumption expenditure including international imports	$2011m (multiply by 4 for annual rate)	0.0	-195	-309	-404	-483
QLD	3	Total private consumption expenditure including international imports	$2011m (multiply by 4 for annual rate)	0.0	-35	-75	-119	-162
SA	4	Total private consumption expenditure including international imports	$2011m (multiply by 4 for annual rate)	0.0	-128	-199	-233	-263
WA	5	Total private consumption expenditure including international imports	$2011m (multiply by 4 for annual rate)	0.0	-16	-34	-51	-69
TAS	6	Total private consumption expenditure including international imports	$2011m (multiply by 4 for annual rate)	0.0	-4	-8	-12	-16
NT	7	Total private consumption expenditure including international imports	$2011m (multiply by 4 for annual rate)	0.0	-1	-2	-3	-5
ACT	8	Total private consumption expenditure including international imports	$2011m (multiply by 4 for annual rate)	0.0	-1	-4	-9	-15
		Total	**$2011m (multiply by 4 for annual rate)**	**0.0**	**-445**	**-770**	**-1050**	**-1309**

Table 2 Type II multiplier with Social Security offsets (continued)

				Number of quarters after closure				
				1	3	7	10	16
Household disposable income								
NSW	1	Household disposable income	$2011m (multiply by 4 for annual rate)	-50.7	-182	-231	-285	-330
VIC	2	Household disposable income	$2011m (multiply by 4 for annual rate)	-252.4	-369	-441	-487	-525
QLD	3	Household disposable income	$2011m (multiply by 4 for annual rate)	-34.1	-108	-141	-170	-196
SA	4	Household disposable income	$2011m (multiply by 4 for annual rate)	-173.9	-251	-273	-284	-316
WA	5	Household disposable income	$2011m (multiply by 4 for annual rate)	-20.7	-57	-70	-85	-98
TAS	6	Household disposable income	$2011m (multiply by 4 for annual rate)	-2.6	-11	-13	-17	-18
NT	7	Household disposable income	$2011m (multiply by 4 for annual rate)	-0.9	-4	-5	-7	-8
ACT	8	Household disposable income	$2011m (multiply by 4 for annual rate)	-0.7	-8	-13	-19	-25
		Total	**$2011m (multiply by 4 for annual rate)**	**-536.1**	**-990**	**-1187**	**-1354**	**-1515**
LGA impact								
Playford (C)		Resident employment	number	-2265.5	-2301.0	-2283.3	-2292.1	-2287.7
Playford (C)		Industry employment	number	-3962.1	-4042.3	-4186.3	-4063.0	-4629.8
Playford (C)		Household disposable income	$2011m (multiply by 4 for annual rate)	-36.6	-45.8	-47.4	-46.8	-52.0
Playford (C)		GRP (headline) at factor cost	$2011m (multiply by 4 for annual rate)	-127.7	-129.6	-131.8	-127.2	-145.0
Salisbury (C)		Resident employment	number	-1980.5	-1876.0	-1928.2	-1902.1	-1915.2
Salisbury (C)		Industry employment	number	-335.2	-577.7	-698.5	-723.4	-783.0
Salisbury (C)		Household disposable income	$2011m (multiply by 4 for annual rate)	-36.7	-47.0	-49.3	-49.6	-54.4
Salisbury (C)		GRP (headline) at factor cost	$2011m (multiply by 4 for annual rate)	-10.9	-18.7	-20.8	-21.1	-22.6
Tea Tree Gully (C)		Resident employment	number	-878.8	-887.0	-890.0	-875.0	-865.0
Tea Tree Gully (C)		Industry employment	number	-14.6	-167.6	-258.2	-283.0	-338.2
Tea Tree Gully (C)		Household disposable income	$2011m (multiply by 4 for annual rate)	-16.9	-23.5	-25.3	-26.1	-28.8
Tea Tree Gully (C)		GRP (headline) at factor cost	$2011m (multiply by 4 for annual rate)	-0.3	-5.4	-7.4	-8.0	-9.3