

# POPULATION STUDIES RESEARCH BRIEF

ISSUE Number 2009038

© School for Social and Policy Research 2008

Population Studies Group  
School for Social and Policy Research  
Charles Darwin University  
Northern Territory 0909  
[dean.carson@cdu.edu.au](mailto:dean.carson@cdu.edu.au)

## Is the Northern Territory in a 'Staples Trap'?

### KEY FINDINGS

- The 'staples thesis' describes the development over time of economies which are founded on the export of natural resources. The domination of the Northern Territory economy by mining (25% of GSP in 2007/8) makes it an example of a staples economy;
- The 'staples trap' is said to occur when economies become too closely tied to the boom and bust cycles of commodity markets and so fail to develop diversity and long term prosperity;
- There is evidence that the Northern Territory economy is 'trapped', and this is reflected in high rates of population turnover, outmigration of key workers, concentration of employment in just a few industries (and particularly in the public sector), and relatively poor status of women and Indigenous people;
- While there is some evidence that the Northern Territory has improved with regards to these indicators over the past twenty years, the research shows an urgent need to consider new approaches to economic development.

### RESEARCH AIM

To examine the extent to which the Northern Territory has been able to diversify its labour force and so avoid a 'staples trap' tying its economy to the boom and bust cycles of the resources sector.

This research brief draws on data from the Census of Population and Housing provided by the Australian Bureau of Statistics. The study is part of a program of demographic research funded in part by the Northern Territory Treasury.

The research has been conducted by **Associate Professor Dean Carson**.

## POPULATION STUDIES GROUP RESEARCH BRIEF ISSUE 2009038: IS THE NORTHERN TERRITORY IN A 'STAPLES TRAP'?

---

### Background

The 'staples thesis' has emerged primarily from the work of Canadian political economists beginning with Mackinnon and Innis in the mid twentieth century (for an overview, see Bunker, 1989). Staples thesis researchers have been interested in New World countries such as Canada, the United States, Australia, and Argentina, and how they have developed economically over time. These countries have had a strong reliance on the export of minimally processed natural resources, initially back to the settling 'home country' and later to more widespread markets. Studies have shown that, with few exceptions, staples economies grow more slowly than those based on tertiary or quaternary industries (Sachs and Warner, 2001). The staples thesis explains this phenomenon as an outcome of the geographical characteristics of the countries in question – they tend to be remote from sources of capital and labour – and the institutional arrangements that develop around sustaining raw material exports to distant markets.

Staples economies do not have to be poor performing in the long run, although that has been the general experience. Economic theory suggests that the rapid accumulation of labour and capital that comes with establishing resource based economies should provide impetus for long term growth. What staples thesis researchers have been able to do is to point out why this might not happen in the specific locations and with the specific staples that have characterised the new world economies. The staples trap fundamentally refers to the continuing of a set of institutional arrangements which fail to convert rapid initial growth based on exports into more sustainable local diversification of economic activity (Kassam, 2001). The outcome is increasing entropy in the economic system and greater susceptibility to boom and bust cycles over time. Institutional arrangements become embedded and development paths are difficult to change.

The key to avoiding or emerging from the staples trap is innovation and diversification (Wellstead, 2007). The literature suggests that the staples trap can be avoided by becoming a 'mature staples' or a 'post staples' economy. Mature staples economies still have the staple as the cornerstone, but work to strengthen forward, backward, demand and fiscal linkages through developing local upstream and downstream industries and stronger market ties (including domestic markets). Post staples economies look specifically to develop industries that are not dependent on time and place. These include tertiary and quaternary activities around the knowledge and creative industries, and particularly those which are amenable to high levels of participation by women and Indigenous people (Abele and Stasiulus, 1989).

Staples trap regions are likely to experience high levels of population mobility as a result of boom and bust cycles, and the need to import labour and capital (Howlett and Brownsey, 2007). Staples economies are exemplified by one industry, or one company, towns, which attract labour but have few other amenities that help retain populations (Clemenson, 1992). Staples regions tend to be attractive to early career workers (usually male) because they offer high paying but relatively low skilled employment. Staples trapped regions tend to be unattractive to those making the transition from education to work, those looking for greater stability in late career, and people retiring from the labour force because they have poor educational institutions and poor amenity value for retirement (Gylfason, 2001). Another characteristic of population mobility in staples trapped regions is that migration events tend to occur between the staples region and other regions, rather than within the staples region (Nelson and McKinnon, 2004). There is a very small pool of labour locally, and internal migration is comparatively rare.

Over time, resources industries become more labour efficient, and staples economies tend to try and replace lost resource sector employment with public sector employment funded by 'resource rents'. A trapped region tends to have a bloated public sector.

The major staples industries – agriculture and mining – have traditionally been dominated by male labour forces. In addition, peripheral locations where staples extraction takes place are often seen as 'no place for women' (Davidson, 2005). Staples trapped regions have high sex ratios, which lead to additional population mobility as 'surplus' males seek mates elsewhere, and which lead to social problems that have been well documented elsewhere. Where women are present, they experience low levels of labour force participation (jobs for women being hard to come by), and consequently low personal economic status (Abele and Stasiulus, 1989).

Staples trapped regions also find it difficult to establish productive roles for indigenous (meaning locally born) and particularly Indigenous (meaning descendants of populations existing prior to European settlement) populations (Kassam, 2001). Institutional arrangements develop which focus on the import of

## POPULATION STUDIES GROUP RESEARCH BRIEF ISSUE 2009038: IS THE NORTHERN TERRITORY IN A 'STAPLES TRAP'?

labour, rather than the development of a local labour force. Employment structures are such that people who are able to stay a short time are rewarded with rapid promotion and high levels of pay, but there are limited senior employment opportunities for those who wish to stay longer (Halseth, 1999). Indigenous people, who have different practices of residential mobility, tend to be excluded from these institutions and so have low labour force participation and low personal economic status. As with women, when governments attempt to address this imbalance, jobs are provided in the public sector and so increasing concentration of industry of employment emerges.

### Methods

A set of indicators aligning with the broad indicator areas of population mobility, industry of employment, and comparative status of women, Indigenous people and remote living populations was derived from the 2006 Census and corresponding tables drawn from the 2001 and 1996 Census. Data were drawn for the Northern Territory as a whole and Australia as a whole. The specific indicators used are described in Table One, along with their assumed relationship to the staples trap.

Table One: Demographic and Socio-economic Indicators of the Staples Trap Derived from 2006, 2001 and 1996 Census Data

Domain	Indicator	Relationship
Population Mobility <sup>a</sup>	<ul style="list-style-type: none"> <li>• % of population who changed residential address between Census night and same night five years previous</li> <li>• % of Census night population who had immigrated to the region within the previous five years</li> <li>• % of Census night population who had emigrated from the region within the previous five years</li> <li>• % of Census night population gained or lost from the region as a result of population mobility between Census night and same night five years previous</li> <li>• % of residential moves which were within the Northern Territory</li> <li>• Indicators above by sex</li> <li>• Indicators above by age groups<sup>b</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Staples trap likely to have high rates of population mobility</li> <li>• Staples trap likely to have low rates of intra-regional residential moves</li> <li>• Staples trap likely to have high rates of mobility among the female population</li> <li>• Staples trap likely to have high rates of emigration of transition to work aged people</li> <li>• Staples trap likely to have high rates of emigration of retirement aged people</li> <li>• Staples trap likely to have high rates of population turnover among early career aged people</li> </ul>
Industry of Employment	<ul style="list-style-type: none"> <li>• Herfindahl index of industry concentration (Clemenson, 1992)<sup>c</sup></li> <li>• % of labour force employed in each industry</li> <li>• Indicators above by sex</li> <li>• Indicators above by Indigenous status</li> </ul>	<ul style="list-style-type: none"> <li>• Staples trap likely to have high concentration of employment in few industries</li> <li>• Staples trap likely to have high employment in public sector and low employment in private sector industries</li> <li>• Staples trap likely to have high concentrations of female and Indigenous employment in public</li> </ul>

POPULATION STUDIES GROUP RESEARCH BRIEF ISSUE 2009038:  
IS THE NORTHERN TERRITORY IN A 'STAPLES TRAP'?

		sector industries
Status of women and Indigenous populations	<ul style="list-style-type: none"> <li>• Sex ratio</li> <li>• % working age females and Indigenous people in the labour force</li> <li>• % females and Indigenous people earning more than the median individual weekly income</li> <li>• % working aged working age females and Indigenous people with highest level of school at year 8 or below<sup>d</sup></li> <li>• % working aged working age females and Indigenous people with Bachelor degree qualification</li> </ul>	<ul style="list-style-type: none"> <li>• Staples trap likely to have high sex ratios, particularly in working age groups</li> <li>• Staples trap likely to have low % of female and Indigenous people earning more than the median weekly income</li> <li>• Staples trap likely to have high % of female and Indigenous people with highest level of school at year 8 or below</li> <li>• Staples trap likely to have high % of female and Indigenous people with Bachelor degree qualification.</li> </ul>

<sup>a</sup>Census data only provides international immigration data, and not international emigration data. Consequently, only movements within Australia were used in the analysis. These represent approximately 97% of all residential moves by Australian residents.

<sup>b</sup>Age groups were defined and labelled as follows – children (aged 0-14 years); transition to work (aged 15-29 years); early career (aged 30-44 years), late career (aged 45-64 years), retirement (aged 65 years and over).

<sup>c</sup>Herfindahl Index ranges between 0 and 1. Higher Herfindahl Index indicates higher concentration of employment in few industries. The 1996-2006 Census data included fifteen industries of employment.

<sup>d</sup>In Australia, year 8 is the first year of secondary schooling.

Data analysis included comparison of Northern Territory 2006 indicator values with those for Australia. While this benchmark is problematic in that Australia itself may be in the staples trap, the lack of universally agreed independent benchmarks made this the most useful approach. Data analysis also included comparison of Northern Territory 2006 indicator values with those from the 1996 and 2001 census. Rates of change in indicator values were calculated as percentage change over time ((2006 value – 1996 value)/ 1996 value) rather than actual change (2006 value – 1996 value) to allow for different starting conditions.

## Results

### *Population Mobility*

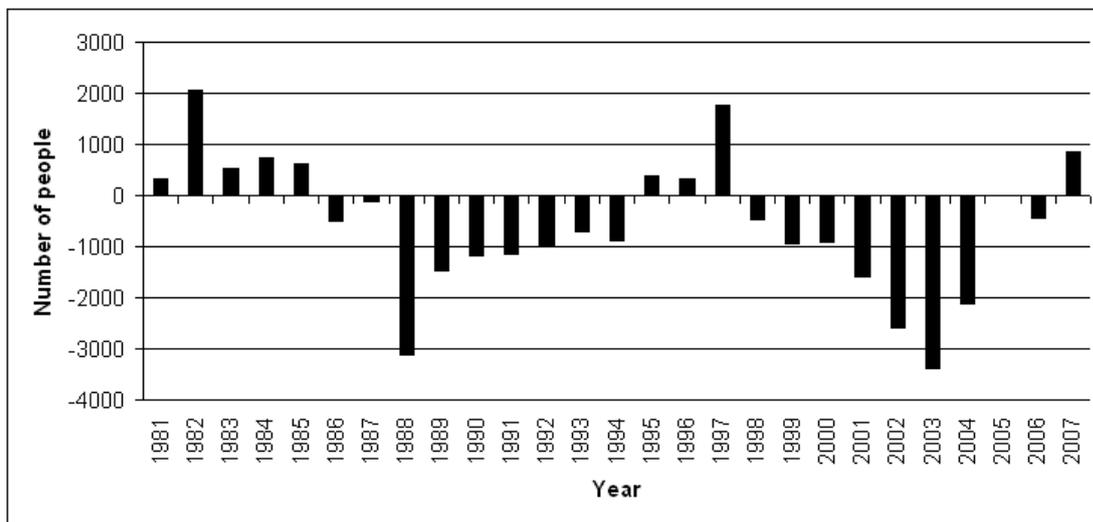
The Northern Territory continues to experience high levels of population mobility compared with Australia as a whole. According to the 2006 Census, about 22% of Australians had changed residential address (moving from one Statistical Local Area to another) between 2001 and 2006. More than half of all residents of the Northern Territory in either 2001 or 2006 had done so. The total population turnover rate in the Northern Territory declined from 56% in 2001 to 54% in 2006, continuing a trend of decline since at least 1976 (when the rate was 61%). Population turnover rates were slightly higher for women (55%), but much lower for Indigenous people (18%). Darwin City and Palmerston-East Arm had population turnover rates exceeding 80% and Central Northern Territory had 62%. On the other hand, Daly and Bathurst-Melville SSDs had population turnover rates less than the national average.

Population turnover was higher among those in the transition to work and early career age groups (both over 60%), and lowest within the retirement age group (30%). The retirement age group had the biggest differential between immigration and emigration rates, with a net loss of 5% recorded in the 2001-2006 period. The rate of turnover among the transition and early career age groups had increased by about 8% since 1996, while rates for all other age groups, and for males and females, Indigenous and non-Indigenous, urban and regional dwellers fell.

Emigration rates were consistently higher than immigration rates, and this is reflected in an overall net loss of population through interstate migration of around 6% between 2001 and 2006. In fact, estimates of

POPULATION STUDIES GROUP RESEARCH BRIEF ISSUE 2009038:  
IS THE NORTHERN TERRITORY IN A 'STAPLES TRAP'?

interstate migration used to calculate ERP for the Northern Territory show a consistent pattern of net population loss since the middle of the 1980s (Figure 1). The Northern Territory gained population from interstate migration in just five of the past twenty-two years for which statistics were produced (1986-2007).



Fig

Figure 1: Net Interstate Migration to the Northern Territory, 1981-2007.

Source: Australian Bureau of Statistics 3101.0

Just 20% of all residential moves by Northern Territory residents were within the Northern Territory, compared with 55% of moves in other States and the Australian Capital Territory.

#### **Industry of Employment**

The Northern Territory had a higher Herfindahl Index at the 2006 census (0.31) than Australia (0.27). The Northern Territory index increased from 0.29 at the 1996 census, while the Australian index stayed the same. The 2006 Herfindahl Index in the Northern Territory was higher for females (0.33) and much higher for Indigenous people (0.46). The largest industry of employment was 'Public administration and safety' which included government clerical employees and defence force personnel. These accounted for 21% of the labour force in the Northern Territory, compared with 7% across Australia as a whole. Public administration employment in the Northern Territory increased by 20% between 1996 and 2006. Public administration employment was higher among Indigenous labour force participants (40%), but slightly lower (19%) among women. The next most popular industries of employment for the total population were health care (10%) and retail (10%). Apart from retail, the most popular private sector industries were construction (8%), accommodation and food services (6%), and transport (5%). Mining employed just 1% of the labour force and agriculture 3%.

Table Two shows the percentage of the total labour force employed in each industry at the 2006 census, and the percentage change in employment in that industry between 1996 and 2006. It also shows industry of employment for females and Indigenous people. Electricity, gas, water and waste services industries, information media and telecommunications industries, financial and insurance services industries and rental, hiring and real estate services industries were excluded from the table due to very low number of employees. Together, these four industries accounted for just 6% of total employment.

POPULATION STUDIES GROUP RESEARCH BRIEF ISSUE 2009038:  
**IS THE NORTHERN TERRITORY IN A 'STAPLES TRAP'?**

Table Two: Industry of Employment, 2006 for Total Northern Territory Population, Females and Indigenous People

	% of labour force 2006	% Change 1996- 2006	% of female labour force 2006	% of Indigenous labour force 2006
Agriculture, forestry and fishing	2.83	-7.26	2.06	1.59
Mining	2.17	-40.27	0.67	1.68
Manufacturing	5.12	19.92	2.30	1.73
Construction	7.63	1.83	2.12	3.40
Wholesale trade	2.59	-27.01	1.72	0.92
Retail trade	9.12	7.60	11.24	4.78
Accommodation and food services	6.54	-16.20	8.35	3.60
Transport, postal and warehousing	4.85	8.71	2.55	1.70
Professional, scientific and technical services	4.87	3.13	5.13	1.60
Administrative and support services	3.11	8.66	3.62	2.81
Public administration and safety	21.09	20.24	18.73	39.13
Education and training	8.69	10.34	13.71	9.17
Health care and social assistance	10.21	-9.94	16.20	19.88
Arts and recreation services	2.13	-5.20	2.21	2.13
Other services	3.64	-8.55	3.29	3.38

Table Two shows substantial declines in employment in agriculture, mining, wholesale trade, accommodation and health services between 1996 and 2006. There were substantial increases in manufacturing, retail trade, transport, public administration and education. Quaternary industries are best represented in the professional, scientific and technical services industry, and may also be included in education and training and arts and recreation services industries. Rates of employment in professional services were lower in the Northern Territory (5%) than in Australia as a whole (7%) but had increased since 1996. Rates of employment in education were higher in the Northern Territory (9% compared with 8%) and had also increased. Rates of employment in arts and recreation services were similar to that in Australia (about 2%) but had decreased between 1996 and 2006.

Female and Indigenous employment was heavily concentrated in the public sector industries (public administration, education, health) with these accounting for nearly half of all female employment and over two thirds of Indigenous employment. Retail trade (12%) and accommodation (8%) were the only private sector industries of note for females, and only retail trade (5%) employed more than 4% of Indigenous people.

#### ***Status of Women and Indigenous***

The sex ratio in the Northern Territory in 2006 was nearly 10 points higher than that for Australia as a whole at 108.6 males for every 100 females. Sex ratios were higher in each of the age groups, with the gap increasing according to age. The Northern Territory sex ratio for retirement age was 112.8 (compared with 82.0 for Australia) and for late career age was 114.2 (99.2). Sex ratios in the Northern Territory decreased in every age groups between 1996 and 2006 except for the retirement age group where it increased from 109.7.

Employment indicators for women, Indigenous and remote people have already been described. There were also differences between these groups and the total population in terms of labour force participation. The total labour force participation rate in 2006 for the Northern Territory (69%) was higher than for Australia as a whole (65%), as was the female labour force participation rate (64% compared with 58%). The Indigenous labour force participation rate was somewhat lower at 43% compared with 55%. The total participation rate for the Northern Territory rose by 2% between 1996 and 2006, but the Australian rate rose by 4% over this time. Similarly, the female participation rate rose 6% in the Northern Territory

## POPULATION STUDIES GROUP RESEARCH BRIEF ISSUE 2009038: IS THE NORTHERN TERRITORY IN A 'STAPLES TRAP'?

compared with 10% nationally. However, the Indigenous participation rate in the Northern Territory rose by 14% compared with 5% nationally.

In the Northern Territory in 2006, 47% of employed females had incomes above the median weekly income of \$549. This compared with 40% of women across Australia as a whole. Just 11% of employed Indigenous people had incomes above the median in the Northern Territory, compared with 21% nationally. The income gaps appear to be closing, with just 37% of women and 7% of Indigenous people above the median of \$442 in 2001 (data were not available for 1996).

The two education related indicators present a contrast. On the one hand, 15% of the Northern Territory working aged population had a highest level of schooling at year 8 or below compared with 9% in Australia as a whole. On the other hand, 43% of the Northern Territory working aged population had achieved a bachelor degree compared with 37% nationally. Female (15%) and Indigenous (45%) working aged populations in the Northern Territory were more likely to have low schooling than in Australia as a whole (9% and 19% respectively). Northern Territory working aged females were more likely to have a bachelor degree (47% compared with 38%) and Indigenous people were about as likely (18%).

In Australia, there was a 20% decrease in the number of working aged people with highest schooling at year 8 or below between 1996 and 2006, but there was no change in the Northern Territory. In the Northern Territory, there was a higher percentage of females (about 3% more) and Indigenous people (about 4%) more with low schooling achievement in 2006 than in 1996. The percentage of working aged people with bachelor degree increased in Australia and the Northern Territory for the total population, females and Indigenous people, with the rate of increase in the Northern Territory greater than in Australia for all categories.

### **Discussion**

Collectively, the suite of indicators positions the Northern Territory as a staples economy, and of being more likely a staples trapped economy than Australia as a whole. Patterns of population mobility very much reflect what would be expected of a staples (and staples trapped) economy, particularly in regards to the high levels of population turnover among working aged people, and the tendency to outmigration of transition to work (which includes seeking further education) and retirement aged people. There were low rates of internal migration, indicating a limited local labour force and a tendency to import labour for short periods of time.

Industry of employment data also indicated a staples economy and a staples trap. Employment was very highly concentrated in the public sector industries, and particularly the relatively non-productive public administration sector. It was not possible to tease out the influence of defence forces employment in this industry, and this may temper the results somewhat. A concerning trend is the decline in employment in the key private sector industries of mining, agriculture and tourism (represented here by accommodation and food services) since 1996, and the increase in the Herfindahl Index over that time. A more positive trend is the increase in employment in manufacturing, and the increase (although marginal) of employment in the quaternary professional services industry, although there have been declines in the arts and recreation industries.

The position of women and Indigenous people is consistently poor, although women may be comparatively better off in the Northern Territory than in the rest of Australia. High sex ratios have persisted, and are magnified in the non-Indigenous population. Women and Indigenous people have few employment prospects outside of the public sector, although women are marginally less constrained. Women and Indigenous people have less earning power, but again the situation is much worse for Indigenous people. Women and Indigenous people are comparatively poorly educated on the one hand, and comparatively well educated on the other hand. Two explanations appear for this finding, given that rates of low schooling are consistent with the expectation of the Northern Territory as a socio-economically disadvantaged region within Australia. The first is that imported labour tends to arrive with high qualifications (even to take up low skilled but high paid jobs). The second is that Indigenous people in particular are 'funnelled through' university education as a means of preventing their entry into the labour force and subsequently the unemployment statistics. The high levels of out migration of university aged people from the Northern Territory is some evidence for the former, while the latter requires further analysis.

POPULATION STUDIES GROUP RESEARCH BRIEF ISSUE 2009038:  
IS THE NORTHERN TERRITORY IN A 'STAPLES TRAP'?

Many of the staples trap indicators appear to be changing in ways that would suggest the Northern Territory economy is less trapped than it once was. Mobility rates have declined, sex ratios have declined, income and labour force participation differentials have declined. Some key indicators, however, show no signs of decline, and actually appear to be increasing. Employment is becoming more concentrated, particularly in the public sector industries, and the rate of people with very low schooling has increased for women and Indigenous people.

**References**

- ABELE, F. and STASIULIS, D. 1989 'Canada as a 'White Settler Colony': What about Natives and immigrants?' In: Clement W. and Williams G. (Eds) *The New Canadian Political Economy* (Kingston, Ontario: McGill-Queen's University Press)
- BUNKER, S. G. 1989. 'Staples links and poles in the construction of regional development theories' *Sociological Forum* 4, 589-610
- CLEMENSON, H. 1992 'Are single industry towns diversifying? A look at fishing mining and wood-based communities' *Perspectives on Labour and Income* 4, Article 4
- DAVIDSON, P. 2005 *The Idea of North* (London: Reaktion Books)
- GYLFASON, T. 2001 'Natural resources education and economic development' *European Economic Review* 45, 847-859
- HALSETH, G. 1999 "'We came for the work": situating employment migration in B.C.'s small resource-based communities' *Canadian Geographer* 43, 363-381
- HOWLETT, M. and BROWNSEY, K. 2007 'Chapter 1 – Introduction: towards a post-staples state?' *Canadian Political Science Review* 1, 1-7
- KASSAM, K. S. 2001 'North of 60 degrees: homeland or frontier?' In: Taras D. and Rasporich B. (eds) *Passion for Identity: Canadian Studies for the 21st Century* (Scarborough: Nelson Thompson Learning)
- NELSON, R. and MCKINNON, R. 2004 'The peripheries of British Columbia: patterns of migration and economic structure 1976-2002' *Canadian Journal of Regional Science* 27, 353-386
- SACHS, J.D. and WARNER, A.M. 2001 'Natural resources and economic development: the curse of natural resources' *European Economic Review* 45, 827-838
- WELLSTEAD, A. 2007. 'The (post) staples economy and the (post) staples state in historical perspective' *Canadian Political Science Review* 1, 8-25