

# POPULATION AGEING: HOW COULD IT SHAPE THE FUTURE OF CRIME AND JUSTICE IN AUSTRALIA?

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Australia is in the process of experiencing population ageing, both structurally and numerically. Given the strong association between age and crime, it is plausible to anticipate that such change in Australia's general population will influence Australia's crime levels, and/or who is committing crime, in some shape or form. This paper focuses on structural ageing, discussing findings from analyses intended to quantify the impact that the progression of large and small cohorts through the young crime prone ages has on age-specific rates, as well as the decline in the proportion of younger people in the population on overall crime levels. Some potential implications of these findings, and some of the potential broader changes underlying these trends (such as a concomitant shift in the social roles associated with change), for the criminal justice system are subsequently discussed, along with an overview of the implications of numerical ageing.

## I INTRODUCTION<sup>1</sup>

Age has been referred to as one of the 'most uncontroversial social indicators of crime'.<sup>2</sup> Identification of the empirical association between age and crime dates back to the mid-1800s, when statistical analyses undertaken by Quetelet<sup>3</sup> led him to conclude that age was stronger than any other force in shaping an individual's criminal activity. In the mid-1900s, Glueck and Glueck concluded that

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<sup>1</sup> Thanks and gratitude is due for the anonymous referees for their thoughtful comments regarding earlier drafts of this article.

<sup>2</sup> Mark Findlay, *The Globalisation of Crime: Understanding Transitional Relationships in Context* (Cambridge University Press, 1999) 63.

<sup>3</sup> Adolphe Quetelet, *Reserches Sue Le Pendant Au Crime Aux Differences Ages* (Hayez, 2<sup>nd</sup> ed, 1833).

‘ageing is the only factor which emerges as significant in the reformative process’.<sup>4</sup> More recently, Hirschi and Gottfredson suggested that the age distribution of offending has become the most ‘widely accepted’ feature of crime.<sup>5</sup> This apparent age-crime pattern has been referred to as the trend of individual offending ‘starting at an early age, rising to a peak in the late teens, and then dropping rather slowly to almost zero at a late age’.<sup>6</sup> The disproportionate level of criminal activity that is attributed to 15-24 year olds has come to be regarded as a core aspect of recorded crime.<sup>7</sup> These statistics also suggest that individual offence levels increase prior to, and decline (slowly) subsequent to, this peak age.<sup>8</sup> Onset typically occurs around age 8-14 years, and desistance around age 20-29 years.<sup>9</sup>

There are, however, possible anomalies to general age-crime trends,<sup>10</sup> and the social circumstances underlying criminal activity

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<sup>4</sup> Sheldon Glueck and Eleanor Glueck, *Later Career Criminals* (The Commonwealth Fund, 1937) 105.

<sup>5</sup> Travis Hirschi and Michael R Gottfredson, ‘Age and the Explanation of Crime’ (1983) 89(3) *American Journal of Sociology* 522.

<sup>6</sup> Alfred Blumstein, ‘An Overview of the Symposium and Some Next Steps’ (2005) 602 *The Annals of the American Academy of Political and Social Science* 244.

<sup>7</sup> John Braithwaite, *Crime, Shame and Reintegration* (Cambridge University Press, 1989).

<sup>8</sup> Satyanshu K Mukherjee, Carlos Carcach and Karl Higgins, ‘Juvenile Crime and Justice: Australia 1997’ (Australian Institute of Criminology, 1997) 189-90; Darrell J Steffensmeier and Miles D Harer, ‘Is the Crime Rate Really Falling? An “Aging” US Population and its Impact on the Nation’s Crime Rate, 1980-84’ (1987) 24(1) *Journal of Research in Crime and Delinquency*.

<sup>9</sup> David P Farrington, ‘Developmental and Life Course Criminology: Key Theoretical and Methodological Empirical issues’ (2003) 41(2) *Criminology* 223-5; John H Laub and Robert J Sampson, *Shared Beginnings, Divergent Lives: Delinquent Boys to Age 70* (Harvard University Press, 2003) 16-7.

<sup>10</sup> See Blumstein, above n 6; Farrington, ‘Developmental and Life Course Criminology: Key Theoretical and Methodological Empirical issues’, above n 9; Laub and Sampson, above n 9; Kerner ‘Book review essay: The Complex Dynamics of the Onset, the Development, and the Termination of a Criminal Career: Lessons on Repeat Offenders to be Drawn from Recent Longitudinal Studies in Criminology’ (2005) 602 *The Annals of the American Academy of Political and Social Science* 260; Darrell J Steffensmeier, Emilie Andersen

are also believed to change as the individual ages.<sup>11</sup> Determining the causation of the association between age and crime has thus proved particularly challenging.<sup>12</sup> Hirschi and Gottfredson go as far to say that ‘the meaning or implications of the relation between age and crime ... easily qualifies as the most difficult fact in the field’.<sup>13</sup> Similarly, Laub and Sampson remark ‘little is known about the age-crime relationship over the full life course’,<sup>14</sup> although official statistics reveal that the various types of offending are associated with younger or older age profiles of offenders.<sup>15</sup>

What research has been undertaken suggests the relationship between age and crime is far from straightforward. The highly contradictory and inconclusive findings emerging from the research, confounded by problems such as the dark figure of crime, or the gap between actual and detected crime levels,<sup>16</sup> have contributed to the difficulty in developing a definitive profile of the age-crime pattern. Consequently, there has been much debate about the role and impact of age in relation to offending trends, and whether the association is one of variance or invariance.<sup>17</sup>

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Allan, Miles D Harer, and Cathy Streifel, ‘Age and the Distribution of Crime’ (1989) 94(4) *American Journal of Sociology*.

<sup>11</sup> Farrington, ‘Developmental and Life Course Criminology: Key Theoretical and Methodological Empirical issues’, above n 9; Robert J Sampson and John H Laub, *Crime in the Making: Pathways and Turning Points Through the Life Course* (Harvard University Press, 1993); David P Farrington, ‘Age and Crime’ in Michael Tonry and Norval Morris (eds), *Crime and Criminal Justice: An Annual Review of Research Vol 7* (University of Chicago Press, 1986) 230-5; CR Tittle ‘Two Empirical Regularities (Maybe) in Search of an Explanation: Commentary on the Age/Crime Debate’ (1988) 26(1) *Criminology*.

<sup>12</sup> Farrington ‘Age and Crime’, above n 11.

<sup>13</sup> Hirschi and Gottfredson, above n 5, 522.

<sup>14</sup> Laub and Sampson, above n 9.

<sup>15</sup> For age-crime curves calculated from the data used in the subsequent analyses, which illustrate how sexual and fraud and ‘older’ than property offences, see Lisa Rosevear, ‘Australian Crime Trends and Population Ageing: A Quantified Perspective’ (2007/8) 10 *Flinders Journal of Law Reform* 836.

<sup>16</sup> Patrick G Jackson, ‘Sources of data’ in Kimberly Kempf Leonard (ed), *Measurement Issues in Criminology* (Springer-Verlag, 1990) 21-50.

<sup>17</sup> See David F Greenberg, ‘Delinquency and the Age Structure of Society’ (1977) 1 *Contemporary Crises*; David F Greenberg, ‘Age and crime’ in

An avenue that has not been extensively explored in this regard, despite its potential to make a significant contribution to explaining the contradictions of the age-crime pattern, is the possibility of demographic change confounding the association between age and measured crime.<sup>18</sup> This is surprising, as crime-related research has long been concerned with demographic trends in association with social and economic issues,<sup>19</sup> dating back to Durkheim's illustration of the usefulness of criminological and demographic data for understanding social issues,<sup>20</sup> and the Chicago School,<sup>21</sup> whose theorists analysed the interaction between population structure and deviant behaviour.

The multiple linkages between crime and demography have resulted in this relationship having a central role in the development of many criminological theoretical perspectives and empirical models.<sup>22</sup> These explore two primary types of interaction. One type examines how crime trends and deviant behaviour influence demographic behaviour and population structure. This approach focuses on the demographic processes of fertility (and nuptiality), mortality, and migration (and residential mobility). The second type, of which age is a key variable, is concerned with the impact of demographic attributes and population structure on aggregate crime trends and patterns. Age, as well as gender and ethnicity, are the key variables of this particular interaction. It is this second form of

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Sandford H Kadish (ed), *Encyclopaedia of Crime and Justice Vol 1* (Macmillan, 1983); Hirschi and Gottfredson, above n 5; Michael R Gottfredson and Travis Hirschi, *A General Theory of Crime* (Stanford University Press, 1990).

<sup>18</sup> See Robert M O'Brien and Jean Stockard, 'Can Cohort Replacement Explain Changes in the Relationship Between Age and Homicide Offending?' (2009) 25(1) *Journal of Quantitative Criminology*.

<sup>19</sup> John R Walker, 'Trends in Crime and Criminal Justice' in Duncan Chappell and Paul R Wilson (eds), *The Criminal Justice System: The Mid 1990s* (Buttersworth, 1994) 22.

<sup>20</sup> Emile Durkheim, *Suicide: A Study in Sociology* (Free Press, 1897/1951).

<sup>21</sup> See James F Short, 'Introduction' in James F Short (ed) *The Sociology Fabric of the Metropolis: Contributions of the Chicago School to Urban Sociology* (Chicago University Press, 1971).

<sup>22</sup> Scott J South and Steven F Messner, 'Crime and Demography: Multiple Linkages, Reciprocal Linkages' (2000) 26 *Annual Review of Sociology* 84.

interaction between crime and demography that is most likely to relate to the age-crime pattern, and to the associated variance/invariance debate. More specifically, with regard to age-transitional change, this second form of interaction relates to how changing population age structure may shape crime trends, or an age structure-crime pattern, at the aggregate level.

Regarded as the most useful demographic variable available,<sup>23</sup> population age structure (or age composition) refers to the proportion of persons at each age (or age group) in the population. The demographic transition sees levels of births and deaths fall from high to low, which concurrently leads to the population age structure shifting from ‘young’ to ‘old’.<sup>24</sup> This shift is observable in the increasing proportion of the population that is old and, concomitantly, in the declining proportion that is young. While increasing life expectancy adds to the number of elderly in the population, the primary cause of this structural ageing is declining fertility. This trend delivers declining numbers of babies into the population age structure, causing it to contract at its base and, hence, for the population to age structurally.

Additionally, the population age structure is shaped by the size of each birth cohort: ‘those persons born in the same time interval and aging together’.<sup>25</sup> These birth cohorts vary in size: some are very large while others are smaller, which similarly influences the proportion of persons at different ages in the population age structure. If the ‘young’ age bracket is comprised of predominantly

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<sup>23</sup> David K Foot, *Boom Bust and Echo: Profiting from the Demographic Shift in the New Millennium* (McFarlan, Walter and Ross, revised ed, 1998).

<sup>24</sup> Ansley J Coale, ‘The Demographic Transition’ (International Population Conference, International Union for the Scientific Study of Population, 1973); Michael S Teitelbaum, ‘Relevance of Demographic Transition Theory for Developing Countries’ (1975) 188(4) *Science*; John C Caldwell, ‘Towards a Restatement of Demographic Transition Theory’ (1973) 2(3/4) *Population and Development Review*; Natalie Jackson, ‘The Policy-Maker’s Guide to Ageing: Key Concepts and Issues’ (Department of Family and Community Services, 2001).

<sup>25</sup> Norman B Ryder, ‘The cohort as a concept in the study of social change’ (1965) 30 *American Sociological Review* 844.

small birth cohorts, the total population will be older than a total population whose 'young' age bracket comprises of very large birth cohorts, and vice versa for the 'older' age brackets. The varying size of birth cohorts also causes each birth cohort to experience a unique array of life chances: 'Each new cohort makes fresh contact with the contemporary social heritage and carries the impress of the encounter through life ... [and so] each cohort is differentiated from all others'.<sup>26</sup> The quality of life chances encountered by a birth cohort are thus relative to its size; the larger the cohort, the less promising its life chances may be.

So how does this all relate to the future of crime in Australia, and the challenges its criminal justice system could be expected to face? Historically, Australia has been a nation for which official statistics indicate that the age-crime pattern is applicable.<sup>27</sup> However, in recent times, the general population of the nation has undergone significant change in its population age structure – to the extent that population ageing has become a 'major concern' for the nation<sup>28</sup> – and this change is not expected to end anytime soon.<sup>29</sup>

The most commonly apprehended age group in Australia are 15-19 year olds.<sup>30</sup> For the period 2008-09, this age group was apprehended at a rate almost four times that of the general population (6,550 per 100,000 relevant population compared with 1,822 per 100,000 population). Interestingly, however, the offence

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<sup>26</sup> Ryder, above n 25; Richard A Easterlin, *Birth and Fortune* (University of Chicago Press, 2<sup>nd</sup> ed, 1987).

<sup>27</sup> Australian Institute of Criminology, 'Facts & Figures 2011' (Australian Institute of Criminology, 2012).

<sup>28</sup> Peter McDonald and Rebecca Kippen, 'The Impact of Immigration on the Ageing of Australia's Population' (Department of Immigration and Multicultural Affairs, 1999).

<sup>29</sup> Commonwealth Treasury, 'Australia to 2050: Future Challenges' (Commonwealth of Australia, 2010); Commonwealth Treasury, 'Intergenerational Report 2007' (Commonwealth of Australia, 2007); Commonwealth Treasury, 'Intergenerational Report 2002-03' (Commonwealth of Australia, 2002).

<sup>30</sup> Australian Institute of Criminology, 'Facts & Figures 2010' (Australian Institute of Criminology, 2011).

rate for over 25 year olds has increased 22 percent since the 1996–97 period.

The emergence of structural ageing in Australia can be traced to the 1880s, but gathered momentum after the peak of the ‘baby boom’ in 1961.<sup>31</sup> Total fertility rates (TFR) peaked in 1961, with 3.6 births per woman, or 239,986 births in total. However, the subsequent progression of baby boomers through the life course resulted in an increase in the number of women reaching reproductive age; although the TFR had fallen to 2.9 births per woman by 1971, the actual number of births peaked at this time with 276,361 births. Therefore, the peak ‘baby bust’ cohort born 1971, and *not* the cohort born 1961, was (and continues to be) the largest in Australia’s history. Post-baby bust cohorts have all been smaller than their parental cohorts, but larger than the baby boom cohort. Thus, recent movements towards an ‘old’ population are caused primarily by the reduced fertility rates of the post-baby boom cohorts, particularly the large baby bust cohort, born in Australia between 1968 and 1974, and not the actual baby boom cohort born 1946–1965. By 2026, the proportion of the Australian population aged 65-plus years will have grown by around 90 percent.<sup>32</sup> This compares with the 11 percent growth that is projected for all other age groups combined.

These significant changes in the Australian population age structure, combined with the apparent age trends in apprehension statistics, suggest that the age structure-crime pattern is relevant for the nation. But to what extent? And what could some of the implications be? This paper outlines the findings from analyses investigating a so-called age structure-crime pattern for Australia,<sup>33</sup>

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<sup>31</sup> Jackson, ‘The Policy-Maker’s Guide to Ageing: Key Concepts and Issues’, above n 24, 15.

<sup>32</sup> Natalie Jackson, ‘Population ageing in a nutshell: A phenomenon of four dimensions’ (Speaker Notes Series 1, Demographic Analytical Services Unit University of Tasmania, 2007) 2.

<sup>33</sup> Lisa Rosevear, ‘Structural Ageing and Australian Crime Trends: An Exploration of the Easterlin Hypothesis and the Nature of the Age-Crime Pattern’ (Unpublished thesis, 2010); Lisa Rosevear, ‘The Impact of Structural

and discusses some potential implications of such findings (and also numerical ageing) for the criminal justice system. It is noted, however, that the findings discussed herein will be influenced to some degree by criminal justice processes (such as varying degrees or ways for detecting types of crimes, and administrative and policy changes), as well as societal factors that could be expected to confound age and crime trends such as intimate relationships or diversity in household and ethnic compositions.

## II STRUCTURAL AGEING: WHAT EFFECT WILL IT HAVE ON CRIME LEVELS?

In investigating the impact that structural ageing has had on apprehension trends, it is useful to develop analyses around the framework set out by Richard Easterlin's relative income hypothesis (1987).<sup>34</sup> The hypothesis is concerned with the baby boom and bust following World War II in America – a period which saw birth rates and relative cohort size rise then fall, and the population age structurally – and how this relates to social change. Its basic premise is that large birth cohorts face greater competition and less promising life chances, resulting in reduced relative income, compared with smaller birth cohorts. In turn, the resources of large cohorts are unable to meet aspirations concerning the standards of living that were developed by the cohort in its formative years, impacting on fertility rates, education and labour force experiences, and partnering and family choices. Easterlin anticipated that the increased stress levels that large birth cohorts may experience in these respects would, in turn, result in heightened levels of social disorganisation, including increased crime levels.<sup>35</sup> Further, Easterlin

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Ageing on Crime Trends: A South Australian Case Study' (Trends and Issues in Crime and Criminal Justice No 431, Australian Institute of Criminology, 2012); Lisa Rosevear, 'The Association between Birth Cohort Size and Fluctuating Crime Levels: A Western Australian Case Study' (Trends and Issues in Crime and Criminal Justice No 434, Australian Institute of Criminology, 2012).

<sup>34</sup> Easterlin, above n 26.

<sup>35</sup> Ibid.



argues that change in population age structure impacts levels of age-related social behaviours (such as crime) in two ways.<sup>36</sup> On the one hand, large birth cohorts may experience higher levels of the behaviour than small birth cohorts due to cohort density (internal competition). On the other hand, as the size of birth cohorts at each age group fluctuates, and the age composition of the population changes, so may the aggregate level of the age-related behaviour.

The theories and expectations of Easterlin<sup>37</sup> can be rephrased and integrated with the foundation of the age-crime pattern to express the anticipated association between age structure and crime as follows. First, fluctuations in age-specific offence levels may be observed as cohorts of varying size, which experience various degrees of internal competition, progress through their respective life cycles. Indeed, Easterlin believes that it is internal competition, and not size *per se*, that influences a cohort's offence levels; that is, fluctuation in the numbers of persons at a certain age alone does not lead to a fluctuation in age-specific ratios.<sup>38</sup> A temporary rise and fall in the offence rates of 18-25 year olds, for example, may be evident as a large birth cohort facing high internal cohort density passes through this age group. Furthermore, the enduring impact of birth cohort-specific life chances (the poor unemployment rates they experienced when first seeking entry to the workforce, for example) may impact on the criminal choices of birth cohorts at all stages of their respective life course. The offence levels of large birth cohorts (who experience higher levels of disadvantage and stress) may be higher than anticipated at all stages of the life course or, more significantly, reflect a deviation from the age-crime pattern and increase as the birth cohort ages. In contrast, the offence levels of smaller birth cohorts, who, having faced lower levels of internal competition than their larger counterparts have not experienced substantial levels of disadvantage and stress, will be more reflective of the age-crime pattern.

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<sup>36</sup> Ibid.

<sup>37</sup> Easterlin, above n 26.

<sup>38</sup> Ibid.

Second, fluctuations in the total offence level of a population can be anticipated as young persons' share of the population age structure changes. This is because the age-crime pattern tells us that young persons, who have higher offence levels than their older counterparts, make the greatest contribution to a population's total prevalence of crime. If young persons' share of the population age structure is large, high total offence levels can be anticipated for the population. Alternatively, if young persons' share of the population age structure is small – as is the circumstance for a population that has aged structurally – lower total offence rates can be anticipated for the population.

Applying these conceptualisations to recorded crime and census data, what do we find? First, focusing on the classic expression of the hypothesis, referred to herein as the cohort density expression, which forecasts that age-specific offence rates will be higher for large birth cohorts than those of smaller birth cohorts because they experience higher levels of internal cohort density, and larger cohorts will subsequently experience higher levels of internal competition and stress and, thus, lower relative income. This expression was investigated through a cohort analysis of total and offence-specific apprehension trends for five Western Australian birth cohorts (born between 1957-60 and 1973-76) in 1994, 1998 and 2002), to determine which (if any) cohort had experienced departures from the age-crime pattern.<sup>39</sup>

Most importantly, departures from the age-crime pattern – or an absence of decline in criminal activity as the cohorts aged – were indicated for the large male and female cohorts born 1969-72 and 1973-76 (these being the cohorts that most closely reflect the period of the Australian baby bust) (see Figure 1 for age-specific apprehension rates for male cohorts).<sup>40</sup> Fourteen of the twenty

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<sup>39</sup> Calculations were based on apprehension data from Crime Research Centre, 'Crime and Justice Statistics for Western Australia' (Crime Research Centre, 2003, 1999, 1996); Australian Bureau of Statistics, 'Population by Age and Sex, Australian States and Territories' (Australian Bureau of Statistics, 2005).

<sup>40</sup> Rosevear, 'The Association between Birth Cohort Size and Fluctuating Crime Levels: A Western Australian Case Study', above n 33; Rosevear, 'Structural

trajectories for these two cohorts showed significant or moderate departures from the age-crime pattern (i.e. increasing or relatively stable apprehension ratios as the cohorts aged), compared with only six for the smaller cohorts, which were also more likely to experience apprehension ratios that were consistent with the age-crime pattern (i.e. the rates declined as the cohort aged) than the larger cohorts.<sup>41</sup> Indeed, the large cohorts departed from the age-crime pattern for all apprehension categories except the relatively small category of robbery and extortion for males. Some variations in these overall trends were evident. For example, for males, the cohort born 1969-72 experienced five significant or moderate departures from the age-crime pattern; the cohort born 1973-76 experienced only two. In contrast, the female cohort born 1973-76 experienced only moderate or significant departures while that born 1969-72 experienced only three. Some further differences by offence category were also indicated across the two large cohorts; generally, the large male cohorts showed greater departures from the age-crime pattern for offence categories with an 'older' age distribution of offenders (i.e. fraud and misappropriation, and sexual offences), while the equivalent female cohorts showed greater departures for those with a 'younger' age distribution of offenders (i.e. offences against property, and offences against the person).<sup>42</sup>

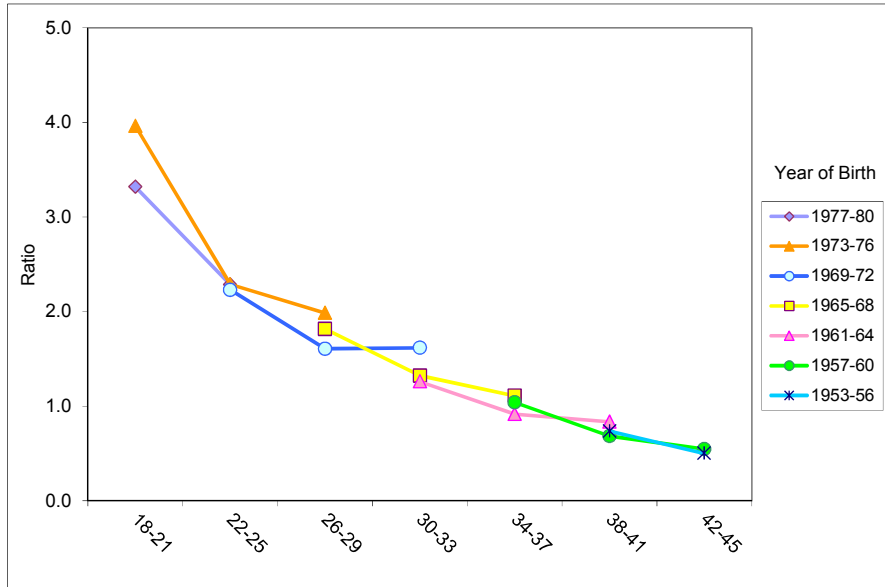
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Ageing and Australian Crime Trends: An Exploration of the Easterlin Hypothesis and the Nature of the Age-Crime Pattern', above n 33. These sources also disseminate the results according to age, period and cohort effects, which are relevant for examining the association between age and crime, but have been excluded to simplify the argument. Age effects refer to age-related phenomena, period effects refer to changes in policing, technology and so forth that occurred at a specific point in time, and cohort effects relate to trends associated with a specific cohort.

<sup>41</sup> For the analyses, a significant departure was indicated by ratios increasing by more than five percent between ages, moderate departures by ratios either increasing or declining by less than five percent between ages, and minor departures by the rate of decline for the ratio slowing by more than one-quarter.

<sup>42</sup> See Rosevear, 'Structural Ageing and Australian Crime Trends: An Exploration of the Easterlin Hypothesis and the Nature of the Age-Crime Pattern', above n 33, for a series of figures by offence category.

Figure 1: Male Apprehension Ratios in Western Australia at Each Age ('00), by Birth Cohort, 1994-2002.



Source: ABS (2005a), CRC (1995-2003).

Shifting focus to the second expression of the Easterlin hypothesis<sup>43</sup> – the atypical expression referred to herein as the age composition expression – this relates to a multiplier effect between age-specific offence rates and birth cohort size. That is, a population’s total apprehension rate can theoretically be expected to rise and fall in accordance with the size of the birth cohort occupying the young crime-prone ages. This expression was investigated through a comparative analysis of total and offence-specific apprehension levels in South Australia for the periods 1987-97, 1998-2004 and 2004-2051 to determine whether change in age composition has had a negative impact on apprehension levels.<sup>44</sup> The comparative

<sup>43</sup> Easterlin, above n 26.

<sup>44</sup> Analyses calculated from Office of Crime and Justice Statistics, ‘Crime and Justice in South Australia’ (Attorney General’s Department, Government of South Australia, 1988-2005); Australian Bureau of Statistics, ‘Population by Age and Sex, Australian States and Territories’, above n 39; Australian Bureau of Statistics, ‘Population Projections, Australia, 2002-2102’ (Australian Bureau

analyses found that changing age composition has had, and should continue to have, a negative impact on apprehension levels, either reducing apprehension numbers or containing them.<sup>45</sup> That is, apprehension levels would have been higher than observed in the absence of structural ageing, or, with respect to the prospective analyses, could be expected to be lower than the crude projection assuming that the population ages as projected. Changing age composition was also seen to have a similar influence on males and females.

Total apprehension numbers for males and females increased by 57 and 50 percent respectively over the earlier period, while age-standardisation indicates that this increase was contained by a respective 10 and 9.3 percent by structural ageing.<sup>46</sup> Subsequently (between 1998 and 2004), total apprehension numbers for males and females fell by 16 and 21 percent respectively, which were reduced by a further four percent for both sexes as a result of age composition effects (see Figure 2 for male apprehensions). The change in counting rules may have had some influences in these findings, but it is at least equally likely that it is symptomatic of change in the rate of decline in young person's share of the population. Indeed, the proportion of young persons (males and females) in the South Australian population declined by approximately 18 percent between 1987 and 1997, compared with less than one percent between 1998 and 2004.<sup>47</sup> Furthermore, while the influence of age composition was generally the same for all but the 'older offender' category of sexual offences (having no real influence on observed numbers for males during the 1987-1997 period), it was a little greater for offences against property (reducing observed numbers by as much as 13 percent, also for males during

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of Statistics, 2005). Analysed over two periods due to a change in counting rules for the apprehension data.

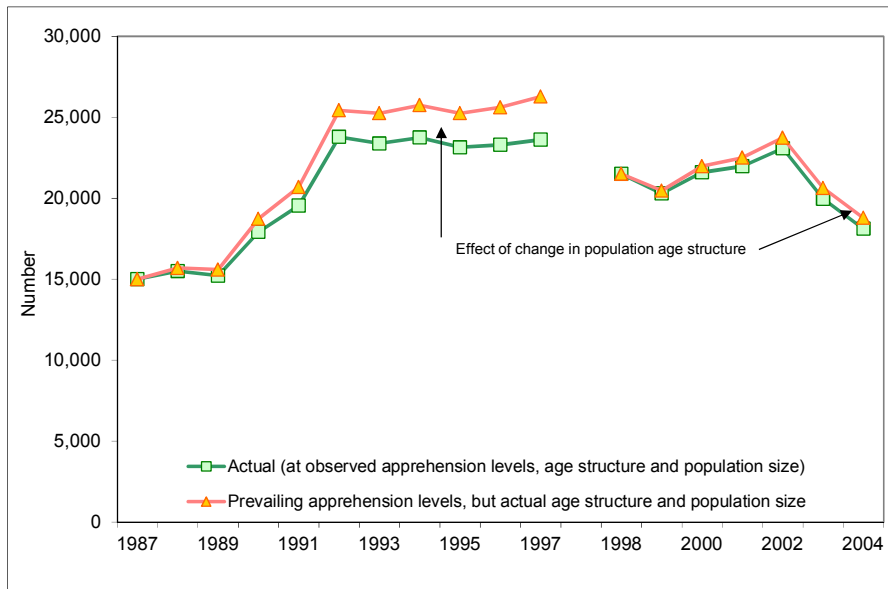
<sup>45</sup> Rosevear, 'The Impact of Structural Ageing on Crime Trends: A South Australian Case Study', above n 33.

<sup>46</sup> Ibid.

<sup>47</sup> Australian Bureau of Statistics, 'Population by Age and Sex, Australian States and Territories', above n 39.

the earlier period).<sup>48</sup> As the largest of the offence categories in the analyses and the category most characterised by youthful offending, it will consequently have made the greatest contribution to change in overall apprehension levels. Nonetheless, changing age composition has had a lesser impact on past apprehension levels than other untested influences; decomposition analyses indicated that age composition effects accounted for around 30 percent of the difference in crude (observed) apprehension ratios between 1987 and 1997, and no more than 16 percent between 1998 and 2004.

Figure 2: Observed and Age-Standardised Apprehension Numbers for Males in South Australia, 1987-1997 and 1998-2004.



Source: Calculated from ABS (2005a), OCSAR (1988-2005).

<sup>48</sup> Rosevear, ‘The Impact of Structural Ageing on Crime Trends: A South Australian Case Study’, above n 33. See Rosevear, ‘Structural Ageing and Australian Crime Trends: An Exploration of the Easterlin Hypothesis and the Nature of the Age-Crime Pattern’, above n 33, for figures of each offence category as well as tabulated comparisons between the effects of age composition, population size and apprehension effects.

Despite crude projections based solely on change in population size suggesting minimal change in (total) South Australian apprehension numbers – increases of 0.5 and 2.4 percent for males and females respectively from numbers in 2004 by 2051 – age-weighting analysis that accounts for anticipated structural ageing across this period suggests that numbers will be 18 percent lower by 2051 than indicated by the crude projection (see Figure 3 for projections of male apprehensions).<sup>49</sup> During this period, young male and female South Australians are expected to experience decline in their share of the population of around 22 and 19 percent for equivalent South Australians.<sup>50</sup> Again, the influence of age composition effects will be a little greater for the offence category with the ‘youngest’ age distribution of offenders (reducing the number of male and female offences against property by 19 and 16 percent respectively) and somewhat smaller for the offence category with one of the ‘oldest’ age distribution of offenders (reducing male sexual offences by only 6 percent).<sup>51</sup>

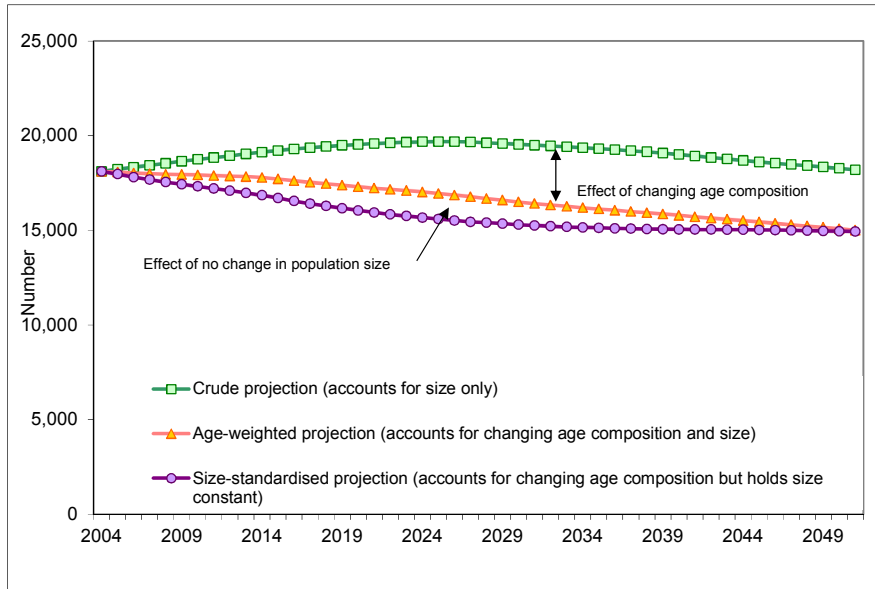
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<sup>49</sup> Rosevear, ‘The Impact of Structural Ageing on Crime Trends: A South Australian Case Study’, above n 33.

<sup>50</sup> Australian Bureau of Statistics, ‘Population Projections, Australia, 2002-2102’, above n 44. The analyses discussed here are based on the medium series (B) population projections. These assume annual net international migration of 110,000 beginning immediately, fertility falling to 1.7 births per woman by 2018, and life expectancy at birth increasing to 84.9 years for males and 88 years for females by 2051. Carrington (2001) reported findings from his prospective analysis of Canadian offence levels based on medium population projections only, initial investigations revealing that insubstantial differences in prospective offence levels were calculated from low, medium, and high population projections. Although more recent projections are now available, the findings and their directions as presented here (that structural ageing is reducing or containing, and will continue to reduce or contain, apprehension levels) should not be very different.

<sup>51</sup> Rosevear, ‘The Impact of Structural Ageing on Crime Trends: A South Australian Case Study’, above n 33. See Rosevear, ‘Structural Ageing and Australian Crime Trends: An Exploration of the Easterlin Hypothesis and the Nature of the Age-Crime Pattern’, above n 33, for figures of each offence category as well as equivalent tabulated findings for Western Australia.

Figure 3: Projected Apprehension Numbers for Males in South Australia (at 2004 rates), 1987-1997 and 1998-2004.



Source: Calculated from ABS (2005b), OCSAR (2005).

Of course, the findings described here are only indicative of crimes coming to the attention of police. Thus, they pertain only to a proportion of all crime. So while analyses suggesting that structural ageing will lower crime levels, and short-term increases in age-specific rates may result from large birth cohorts, are a good news story, in considering the future impact that structural ageing may have on Australian crime and justice, there may also be some important ramifications in terms of functions of the criminal justice system and how broader changes in social meanings of age may feed into criminal trends.

One of these relates to the possibility that the age distribution of offenders depicted in official crime statistics may not be consistent



with the age distribution of all offences.<sup>52</sup> It is generally accepted that young persons do not simply commit more crime than older persons, but rather that the criminality of younger persons may be more detectable than the criminality of older persons (and hence contribute to the over-representation of young persons in the official statistics).<sup>53</sup> Younger offenders are often inexperienced, more likely to engage in risk-taking activity, and susceptible to over-policing, all factors which may contribute to an increased likelihood of their actions being detected. Older offenders, on the other hand, may be more experienced in committing offences and escaping arrest<sup>54</sup> – or they engage in less obvious offences, say white collar crime as opposed to street crime – allowing their activities to remain concealed. So if there are more people in the population who are older, is it plausible to anticipate an increase in less visible crimes? What costs will this pose, not only to the justice system, but to victims as well as the broader community?

There are also arguments related more specifically to apprehensions and the various stages of the criminal justice system. The other side to the above argument is that older persons actually have an increased risk of arrest as their activities can become known to police over the course of their criminal careers. If this means that the increase in older persons will equate to an increase in the number of older persons coming into contact with the criminal justice system, it will be interesting to see whether magistrates approach older offenders with more caution than younger offenders. For example, will their activities be perceived as more ingrained than the activities undertaken by youths, the latter being associated with a motivation to engage in risk taking behaviour? How in turn will this mould the demographics of incarcerated populations, and what changes will need to be made to address the needs of this population, or will it see an increase in alternative approaches to justice due to the hesitation to incarcerate older persons? This argument is further explored in the next section. On the other hand, when there are fewer

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<sup>52</sup> Thomas B Marvell and Carlisle E Moody, 'Age Structure and Crime Rates: The Conflicting Evidence' (1991) 7(3) *Journal of Quantitative Criminology*.

<sup>53</sup> Farrington, 'Age and Crime', above n 11.

<sup>54</sup> Greenberg, 'Age and Crime', above n 17.

young persons in the population, will this make their criminal and deviant behaviour more susceptible to coming to the attention of police? And, similarly, given the trend for older persons to be disproportionately fearful of crime, will their increased share of the population see an increase in the level of reported crime (much of which is likely to be committed by younger persons)?

On a related note, the comparative analyses are based on the assumption that social roles and the like that are based on or dependent of age do not evolve over time. In this regard, understandings such as '[a]ge is correlated with beliefs and practices themselves correlated with crime',<sup>55</sup> and that social circumstances underlying criminal activity change as the individual ages,<sup>56</sup> are important considerations. Should broader age-specific meanings and roles change as the proportion of age groups in a society change, it would seem plausible that this may interact with the age groups who are most likely to be involved in criminal activity. Specifically, 'the importance of informal social ties and bonds to society at all ages'<sup>57</sup> had resulted in age-graded social control institutions such as marriage and work being closely associated with crime. However, in recent times, individuals are increasingly being involved in education for longer, resulting in a delay in marriage and meaningful employment. May this not result in a delay in desistance? The earlier findings relayed in relation to large birth cohorts, which are theorised as groups who are required to delay marriage and find it difficult to secure employment, would suggest that it may occur, which may produce fresh challenges for developmental criminology and the like, particularly as it has been remarked that 'little is known about the age-crime relationship over the full life course'.<sup>58</sup>

On a different note, it should not be assumed that the trends identified in this paper would apply to all ethnic groups in Australia.

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<sup>55</sup> Hirschi and Gottfredson, above n 5, 580.

<sup>56</sup> Farrington 'Developmental and Life Course Criminology: Key Theoretical and Methodological Empirical issues', above n 9; Sampson and Laub, above n 11; Farrington 'Age and Crime', above n 11; Tittle, above n 11.

<sup>57</sup> Sampson and Laub, above n 11.

<sup>58</sup> Laub and Sampson, above n 9.

There are two main reasons for this. First, and in relation to any variation in age-specific crime rates over time, is that migrants may experience different life chances to those born in Australia because they have spent their formative years in their birth countries.<sup>59</sup> This may influence the propensity of such individuals to commit crime. Similarly, cultural groups may possess different values that will influence their propensity to commit crime. Second, and of most relevance to age compositional effects, is that unique population groups within the national population do not have the same age structure. For example, and of particular importance given the level of over-representation in the criminal justice system for this group, is that the Indigenous Australian population continues to have a distinctly younger age structure than the non-Indigenous population. Such factors should also be kept in mind when making any policy or operational decisions about how population ageing will influence future criminological trends and practices in Australia.

### III THE OTHER SIDE OF THE COIN: NUMERICAL AGEING

Although this paper has focused on the impact of structural ageing, it is also pertinent to address the association between numerical ageing and crime. Numerical ageing refers to the absolute increase in the number of elderly, and is caused by declining mortality or, more specifically, by increasing life expectancy at older ages.<sup>60</sup> There are currently 2.6 million Australians aged 65-plus years, but based on Australian Bureau of Statistics medium projections,<sup>61</sup> this number is expected to increase to 5.0 million by 2025, and 7.2 million by 2050. The two aspects of population ageing (structural and numerical) are not experienced separately, but have different causes and

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<sup>59</sup> See Rosevear, 'Structural Ageing and Australian Crime Trends', above n 33.

<sup>60</sup> Natalie Jackson, 'Population ageing in plain language: An analysis in four dimensions' *Occasional Paper 1* (Demographic Services Analysis Unit University of Tasmania, 2004); Jackson, 'Population ageing in a nutshell: A phenomenon of four dimensions', above n 32.

<sup>61</sup> Jackson, 'Population ageing in plain language: An analysis in four dimensions', above n 60.

implications.<sup>62</sup> So while some of the issues previously discussed will be influenced by numerical ageing, this aspect of population ageing can also be expected to raise different crime-related issues to structural ageing. Specifically, while structural ageing is associated with change in the perpetrators of crime due to respective cohort density and age composition effects, numerical ageing will likely drive an increase in crime-related change against older persons.

Crime against older persons, often referred to as elder abuse, can be defined as ‘any behaviour or pattern of behaviour by a person or persons which results in harm to an older person’.<sup>63</sup> This definition encompasses numerous forms of abuse, including physical, psychological, economic, medical, sexual and potentially financial abuse, and the neglect and violation of rights of the elderly. Particular forms of victimisation that may increase in the face of numerical ageing include abuse of older persons from family members and in aged care facilities, and a heightened susceptibility to financial fraud.<sup>64</sup> With regard to the latter, financial fraud is more problematic for older persons than younger persons on three levels.<sup>65</sup> First, based on their progression through the life course, an elderly person is unable to rebuild their wealth. Second, retirement plans may be forcibly abandoned. Third, the psychological, emotional and personal impact of financial fraud on the individual is greater for elderly persons than younger persons. Furthermore, many cases of financial fraud against older persons are not reported, mainly as a consequence of the close relationship between the victim and offender, or the victim being unaware that they have had a crime committed against them.<sup>66</sup>

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<sup>62</sup> Ibid.

<sup>63</sup> Pamela Kinnear and Adam Graycar, ‘Abuse of Older persons: Crime or Family Dynamics?’ (Trends and Issues in Crime and Criminal Justice No 113, Australian Institute of Criminology, 1999) 2.

<sup>64</sup> Marianne James, ‘Understanding and responding to crime and older people’ (4th National Outlook Symposium on Crime in Australia, New Crime or New Responses, 2001, Australian Institute of Criminology).

<sup>65</sup> Russell Smith, ‘Fraud and Financial Abuse of Older Persons’ (Trends and Issues in Crime and Criminal Justice No 132, Australian Institute of Criminology, 1999).

<sup>66</sup> Ibid.

Similarly, managing ageing prison populations will become increasingly important. Although numerical ageing is not the sole cause, between 2000 and 2010, the number of prisoners aged 50 years and above rose by 84 percent in Australia, with the greatest growth in the 65 years and above age bracket.<sup>67</sup> Critical issues in this regard include physical and mental health needs, and a heightened susceptibility to victimisation from other prisoners,<sup>68</sup> which will result in implications for any change in prison population such as alternative accommodation and program services.<sup>69</sup>

#### IV CONCLUSIONS

In sum, the age-crime pattern informs us that, traditionally, offending is, primarily, a youth-orientated activity. The age distribution of offenders suggests that as the age structure of a population transforms, so too will crime trends. The Easterlin hypothesis (1987a) provides a useful analytical framework, which is theoretically and empirically feasible, for examining the potential impact of birth cohort size on age-specific apprehension levels, and of age composition on total apprehension levels. Investigation of

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<sup>67</sup> Susan Baidawi, Shelley Turner, Christopher Trotter, Colette Browning, Paul Collier, Daniel O'Connor and Rosemary Sheehan, 'Older Prisoners – A Challenge for Australian Corrections' (Trends & Issues in Crime and Criminal Justice No 426, Australian Institute of Criminology, 2011).

<sup>68</sup> Ibid; John Dawes, 'Losses and Justice: An Australian Perspective' in Neil Thompson (ed), *Loss and Grief: A Handbook for Human Services Practitioners* (Palgrave, 2002); John Dawes, 'Dying with Dignity: Prisoners with Terminal Illness' (2002) 10(3) *Illness, Crisis and Loss*; John Dawes, 'Managing an Ageing Prison Population' in Sean O'Toole and Simon Eyland (eds), *Corrections Criminology* (Hawkins Press, 2005); John Dawes and Jenny Dawes, 'End-of-Life Care in Prisons' in Joan Berzoff and Phyliss R Silverman (eds), *Living with Dying: A Handbook for End-of-Life Healthcare Practitioners* (Columbia University Press, 2003); D Ian Pool and Sandra Baxendine, 'Population Trends, Convictions and Imprisonment: Demographic Divergence, Dichotomy and Diversity' (Discussion Papers No 61, Population Studies Centre University of Waikato, 2006).

<sup>69</sup> Baidawi et al, above n 67.

these factors for Australia has been timely because the nation's population has aged (and will continue to age) structurally and official statistics show clear evidence of the age-crime pattern.

The findings discussed in this paper clearly illustrate that both past and future offence levels are reduced by structural ageing. However, given some of the underlying issues related to the gap between actual and recorded crime, and anticipated change in social meanings of age as the population age structure changes, the degree to which the quantified indicators are a reflection of all crime and/or who is most likely to commit crime in the future needs to be considered. Nonetheless, they serve as a useful tool in illustrating the potential degree to which structural ageing is shaping crime in Australia, and should be useful to policy makers and practitioners in making decisions about the future of our criminal Justice system.

Furthermore, the impact of structural ageing should extend to levels of the criminal justice system beyond apprehensions, and will not be limited to the jurisdictions used as case studies in the analyses discussed here. National incarceration numbers between 1982 and 2004, and prospectively between 2004 and 2051, have been reduced around 11 percent by age composition effects.<sup>70</sup> These same analyses also showed that extremes in the progression of ageing for individual ageing will influence the extent to which crime-related numbers in that jurisdiction will be reduced by structural ageing; while older populations such as South Australia and Tasmania would appear to have experienced the greatest reductions in the past, as the younger populations such as Northern Territory experience heightened levels of structural ageing in the future, they may experience the greatest reductions in the future.<sup>71</sup>

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<sup>70</sup> Rosevear, 'Australian Crime Trends and Population Ageing: A Quantified Perspective', above n 15, 839-42.

<sup>71</sup> Ibid; see Natalie Jackson and Bruce Felmingham, 'As the Population Clock Winds Down: Indicative Effects of Population Ageing in Australia's States and Territories' (2002) 19(2) *Journal of Population Research* for discussion of differences in the rate of ageing across Australia's states and territories.