WRR

SCIENTIFIC COUNCIL FOR GOVERNMENT POLICY

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55

GENERATIONALLY-AWARE POLICY

SUMMARY OF THE 55[™] REPORT

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SUMMARY

Important decisions will be taken in the next few decades concerning the system of collective old-age provision (AOW), pension systems and health care. Demographic shifts provide one reason: there will be far more elderly people in relation to young people. In 2025 20 per cent of the population will be aged over 65 years; 5 per cent of the population will be aged over 80. Furthermore, shifts in life cycles (with longer periods of education and earlier withdrawal from the labour system) will reduce the support base for collective facilities. A special burden will be therefore placed on the shoulders of the younger, working generations who will, to a greater extent than at present, be asked to transfer part of their earnings to the older generations. These shifts provided grounds for the Council to conduct a study into the relationships between the generations.

The publicly funded pension and health care systems are not, however, the only forms of intergenerational transfers. The education system constitutes an important transfer in the reverse direction, generally from old to young. Technological development and the improvement of environmental quality are also transfers that must be taken into account. This WRR report therefore contains a broadly-based analysis of the relations between generations. Apart from the state pension (AOW), health care costs and the national debt, education, environmental capital and technological knowledge have also been examined for the Netherlands.

Evaluation criteria

The WRR has examined the relationship between generations on the basis of two criteria, sustainability and fairness:

- The *sustainability criterion:* how can entitlements on transfers be guaranteed in such a way that the existing transfer system is not dislocated?
- The *fairness criterion*: how can the costs and benefits be divided among the generations in such a way that within the various generations it will be widely perceived and accepted as just?

Of these two criteria sustainability provides the best frame of reference for government policy. The application of fairness criteria to the relationship between generations remains problematical, in that 'intergenerational fairness' can only be calculated with difficulty, if at all, because:

- unavoidable historical factors (e.g. the process of ageing now taking place) consistently result in shifting distribution of the burdens among the generations;
- the assumptions underlying the mathematical balance sheet of costs and benefits in each generation (known as the 'generation accounts') are uncertain. Given the context and hard to quantify transfers in the field of the environment and technology, for example, the notion of a generational balance loses its significance.

The sustainability criterion entails that the present institutions, which may be assumed to represent current preferences, can be maintained – if necessary with changes in the future. Indirectly the notion of fairness nevertheless plays a role here, since the preservation of sustainability maintains the implicit 'contract between the generations'. Furthermore a system which is not perceived as fair will presumably also not be sustainable in the longer term.

Social backgrounds

Sustainability and fairness take shape against the background of important social developments:

• The relationship between the micro and the macro sphere

The generations have cared for one another in the nuclear and extended family contexts for generations. This remains the case today. At the micro level there would not appear to be any emerging problems of a universal nature. By contrast certain tensions are beginning to emerge at macro level as a result of aging and the shrinking support base. In the Netherlands too the younger generations are becoming concerned about the relationship between present burdens and future entitlements.

• Changes in the life cycles

Young people in the Netherlands have been entering into social responsibility at an ever-increasing age and have therefore been remaining dependent on transfers for a longer period of time. During adulthood the period in which people perform paid employment has steadily contracted and has been associated with a comparatively marked accumulation of social obligations (e.g. work and family). The period following the performance of paid employment, in which people often remain healthy for lengthy periods and would be able to continue bearing social responsibility, has steadily lengthened. These developments have resulted in a reduction in the support base and a growing dependence on public transfers. If no changes are brought about in the life cycles as they have now evolved the sustainability of public provision will become a problem.

• The international context

Nearly all social security systems were developed during a period in which the national scale of the economy had primacy. Increasing the burden of taxation and social security charges in order to solve the aforementioned problems has, however, come under pressure from the need to remain internationally competitive. The requirements which the member states of the European Monetary Union have undertaken concerning budgetary equilibrium and the financing deficit also impose limitations on the scale of public transfers.

A generationally-aware policy

The overall conclusion to emerge from the Council's analysis is the necessity for a *generationally-aware policy*. This implies that already at this moment consistent account needs to be taken of the interests of future generations on the basis of the preferences of the present generations and recognising the varying positions of the respective generations.

The Council notes that political decision-making has traditionally been largely concerned with present-day distribution issues and present-day interests. In choosing between present-day distribution issues and the anticipated distribution problems in the longer term, politicians will in future need to be guided to a greater extent by the latter problem.

The limited extent to which the future can be predicted does of course constitute a problem in shaping a generationally-aware policy. Similarly it is barely possible to incorporate the preferences of future generations in 'generationally-sensitive' decisions such as the construction of a new airport, the reclamation of inland waters or the rezoning of woodlands for housing. In such cases decisions now need to be weighed against the risks in the future. The specific incorporation of the – as yet unexpressed – interests of future generations in this process forms a significant element in a generationally-aware policy.

An important aspect of collective transfers is the interwoven nature of intragenerational transfers (within one generation from one life-cycle stage to another) and intergenerational transfers (from one generation to another). The state pension (AOW) was designed to distribute prosperity effectively among the citizens. The introduction of the AOW also meant however that the government was committing the younger, working generation to making transfers for a lengthy period to elderly people who had already completed the phase of employment. With its call for a generationally-aware policy the Council is drawing attention to the impact of such intragenerational redistribution on the intergenerational transfers. The Council regards it as highly important for the government to make it clear in the short term what measures it intends taking. Otherwise confidence in the sustainability of the system will be weakened, which could ultimately undermine the system itself.

General recommendations

Taking intergenerational aspects properly into account has direct consequences for the collective systems of old-age provision and health care, knowledge policy and environmental policy. Generationally-aware policies also, however, mean that the sustainability of the *totality* of government obligations needs to be kept in mind. The scope for government *spending* is after all determined in part by the government's *commitments* in connection with the national debt and the associated interest payments.

Against this background the Council has specified three conditions for the sustainability of government commitments:

• Strengthening the support base for government expenditure by enlarging labour force participation. In the first place the periods of being employed and being non-employed need to be distributed more evenly over the life cycle. Institutional obstacles need to be eliminated to this end. Paid employment could commence at a younger age (by spreading education programmes more effectively) and conditions could be created for people to continue working if so desired after reaching the age of 65. The labour force participation of women needs to be promoted more effectively.

- In order to spare the support base the increases in health care spending arising from non-demographic factors need to be controlled. The rising level of aspiration and pressure of technological developments have meant that public health care spending has been rising more rapidly than per capita income. Such an increase is at variance with a preference for a more or less constant ratio between public and private spending.
- In the third place demographic developments make it necessary to anticipate future increases in expenditure. By redeeming the national debt over the next 20 years the present interest payments would become available as a source of funding for the anticipated increase in expenditure. In the present circumstances the systematic reduction in the debt ratio forms a vital element of a generationally-aware policy.

Policy recommendations

In the policy fields examined the Council has reached the following conclusions and makes the following recommendations:

a Old-age provision

In itself the mixed Dutch pension system of pay-as-you-go and funding fits in well with the recommendations by the World Bank for a three-pillar system, namely a publicly-funded state pension based on pay-as-you-go funding in order to guarantee a minimum standard of living, combined with collective private supplementation on a funding basis to provide income continuity, and a third pillar of individual savings for individual wishes.

If the aforementioned conditions for strengthening the support base are met, the sustainability of the state pension need not be at risk, even in the long term, the analysis in this report suggests. As a general principle all the generations will however need to bear responsibility for the future, in that the elderly can if necessary also be expected to help maintain public provision. Given the sensitivity of the state pension to demographic shifts, the Council advises that the generation aged over 65 should in future be asked to make pension contributions. Financing the AOW from taxes rather than premium contributions, as is currently the case in the Netherlands, would be a means to this end.

b Health care

In the health care system too a collective responsibility can be discerned for a basic level of care and provision. This basic level depends on what is considered desirable in political terms as minimum provision at a particular point. In order to sustain the collective health care system in the Netherlands over the long term, the Council recommends a mixed form of a public system and a private system, under which, above an acceptable minimum, a greater call would need to be made on the personal responsibility of both younger and older people. In this regard the Council would once again draw attention to its recommendations to the government in the WRR report *Public Health Care* (1997).

c Technology/knowledge policy At times of rapid technological change the relevant skills need to be kept up to the mark within the generations. Among other things, investments in the ability to take up new technologies may take the form of spreading employment and learning more effectively over people's careers (i.e. life-long learning). Even if the burden of ageing on transfer spending should rise, from an intergenerational perspective it is important to maintain good educational facilities for young people. Among other things this is important for ensuring the flexible passage of generational change. In addition, investment in technology-related capital goods needs, apart from the investments in knowledge in human capital, to be examined and where necessary promoted.

d Environmental policy

The promotion of a good environment calls for responsible behaviour with respect to the environmental transfers to following generations. In deciding what is 'good' both present and future preferences play a role. In recognition of this subjective nature of environmental policy, the Council advises in view of the present and anticipated preferences to place the emphasis in government policy on already existing and new forms of collective *self-commitment* (i.e. combinations of government regulation, institutional facilities and financial incentive) in order to lay down what should be preserved for a longer period at what price.

Arrangement of this report

The original report consists of two parts. Part I provides an analysis of the most important concepts together with a survey of existing scientific insights into the generational problem in economics and sociology. In this translation these chapters have been summarised in chapters 2 and 3.

Part II in the original report provides an analysis of the generational problem in the various transfer fields. This part examines individual problems in various policy areas:

- the financing of the AOW and health care in the period 2010 2035;
- the role of solidarity between generations with respect to risk-control in supplementary pension schemes;
- care of young people and the elderly, allowing for changes in career patterns;
- the transfer of knowledge in education;
- the transfer of technology and environmental capital.

In a concluding chapter the report provides an integral deliberation of the generational problem and makes recommendations for future policy for maintaining the sustainability and fairness of the solidarity between the generations. In this translation the concluding chapter is summarised in chapter 4 and 5. This final chapter also summarises the conclusions of the examined policy areas. GENERATIONALLY-AWARE POLICY

PREFACE

This report examines the sustainability and justice of government policy in relation to intergenerational transfers. It examines the challenges that government policy will face as a result of the combination of two phenomena, i.e. the ageing of the population and changes in the life cycle of successive generations.

The main theme of the report is that the Dutch system of intergenerational transfers is sustainable provided that a generationally-aware policy is conducted. This means that distribution issues need to be examined not just in the present day but that the distribution in the long-term in respect of both the present and future generations also needs to be taken into consideration. If the entire complex of government obligations is assessed and managed in that light, a sufficiently strong basis of support can be maintained in order to meet the requirements of successive generations in the field of old-age provision, health care, education, technology and environmental transfers.

This report has been prepared by an internal project group of the WRR chaired by Prof. Cornelis J.M. Schuyt, a member of the Council. At the time of publication of the report the other members of the project group were: Prof. Frank A.G. den Butter (member of the Council), Dr. Harry P. van Dalen, Dr. Frans J.P.M. Hoefnagel, Dr. Roel M.A. Jansweijer, Dr. Gerrit J. Kronjee (project coordinator), Dr. Henk C. van Latesteijn and Prof. Pauline L. Meurs (member of the Council). GENERATIONALLY-AWARE POLICY

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1 INTRODUCTION

1.1 SETTING THE CONTEXT: THE GENERATIONAL DEBATE

For society as a whole, generations are self-evident frames of reference for the ordering of human contact and interaction. Knowledge and experience must be transferred, positions that have fallen vacant must be filled, administrative or political elites must be replaced. The way in which such generational changes take place and are organised can vary substantially from one society to another. Although the need for a mutual relationship between the generations is a constant factor, the way in which the relationship is ordered is not. Major variations may even be observed here. In some cases a generation gap will, with some regret, be identified, and from time to time generational conflicts may occur. Although the latter would appear more common in other countries than in the Netherlands as yet, there are also indications in this country to suggest that divergence of interests can lead to new tensions between the generations.

The generation debate abroad

In the United States the public debate has long been marked by a war between the generations. Ageing is bringing about a shift in the power of numbers, which is touching a raw political and electoral nerve. On the one side older people are uniting in grey power associations and are lobbying for a reduction in (for example) public spending on young people in such areas as education. In this way the cost of ageing could in principle be passed on to young people by the electoral strength of the elderly. These young people on the other side must generate the costs incurred for the elderly through their employment. If the pressure becomes excessive, they could withdraw, however, in all sorts of ways (emigration, international working arrangements, private financing schemes and wage inflation).

Clearly, the generational perspective – i.e. regarding general policy problems from the specific viewpoint of the relationship between the generations – could readily evolve into a generational conflict. However, the response in other countries is not always the same as that in the United States. The experiences in other countries indicate that the latent conflicts of interest between the generations could also result in other, more or less sharp reactions.

Calculations for Germany, for instance, indicate that a tax increase of around 40 per cent would need to be imposed on the working population just to be able to pay for the pension system in 2030. An increase in economic growth would not result in any improvement since pensions are wage-indexed. Nevertheless, although the lower fertility and nature of the welfare and social security systems mean that the situation in Germany will be much more acute than that in United States, the debate about the generational issue in Germany has not been an intense one. In Norway the parliament has explicitly asked the National Planning Bureau to draw up generational accounts for policy formulation purposes. These generational accounts are added to the budget each year. This has not proved to generate political conflicts.

The debate is at its fiercest in New Zealand and Australia, where the welfare state is depicted as a present by the pre-war and baby-boom generations to themselves. Seen in this light it has been the baby boom generation that developed favourable collective schemes and which stands to benefit the most from them, both now and in the future. This generation is said to expect the entitlements for their old age to remain fully in force. The bill for this present is, however, being submitted to the younger generation. Under this vision the implicit contract between the generations threatens to become a chain letter in which those at the bottom are left paying the Piper, while in practice it makes no difference whether or not people abide by the contract.

Is a collision between the generations unavoidable then? The reactions abroad indicate that both conflict and consensus between the generations are possible in the solution of urgent policy problems. Making use of economic generational accounts as a policy instrument, as in Norway, may be regarded as an option to be seriously investigated. But the more acute conflict concerning public spending on behalf of the elderly or on behalf of younger people, as in Australia or New Zealand, could also occur.

An emerging debate in the Netherlands

In the Netherlands the conflicts between young and old appear to be increasing to some extent. Within the public debate a diffuse sense of uncertainty concerning the future system of social security (especially pension provision and health care) can be discerned, and this uncertainty is even accentuated by the unpredictable nature of environmental charges. There is a growing realisation that decisions that have already been taken or ways of conducting affairs will eventually come to weigh on the shoulders of the youngest generations of today. Existing systems of transfers do not appear to fit in well with the changing social circumstances. Similarly in the environmental field the debate has got underway as to how the interests of the coming generations can be honoured.

The system of publicly funded social transfers evolved in accordance with a specific pattern based on the composition of the working population in the post-war years. The initial post-war social legislation – namely the Drees Emergency Act of 1948 and the General Old Age Pensions Act (AOW¹) in 1956 – concerned financial commitments and income transfers for the older generation. Due to the depression and war years these elderly people had not been able to save much for their old age. Ageing and poverty often went hand-in-hand. Of necessity the government of the day opted for a pay-as-you-go system to fund the AOW. Other schemes for the protection of employees' risks and to fund medical expenses were also based on the pay-as-you-go system. This meant that those who had run into little ill fortune or setbacks in their lives found themselves paying for those who had been affected. The healthy paid for the sick and employed for the non-employed. The contribu-

tion charges for all these collective schemes were raised annually, but over the course of time came to obstruct the effective functioning of the economy.

The selected forms of solidarity were not exclusively transfers from rich to poor, healthy to unhealthy and able-bodied to disabled but also transfers from young (working) to old (no longer working). This direction of transfer was desired and accepted widely. People were happy to pay for the old age provision for the older generations in the unvoiced expectation that they themselves would, once old and retired, be able to rely on the same entitlements. It was not however realised that this system of collective transfers in fact amounts to an *unspoken or implicit contract* between the generations.

The changing composition of the population is now placing that contract under threat. Fewer young people will jointly need to raise more on behalf of the generations that have left and are leaving the labour force. The result is higher contributions and a higher tax burden. The financial capacity of young people – i.e. the coming tax paying generations – could be further weakened if the shrinkage of the working population were to be accompanied by a fall in productivity.

Is the unspoken solidarity between the generations now at risk? The initial calculations and estimates of AOW and pensions do indeed indicate a great increase in the burdens for the young generations – given unchanged policies. In anticipation of the remainder of this report, it may be noted at this stage that many of these calculations are based on contestable assumptions. If in government policy the later resort to old age provision is anticipated adequately and in good time, the demographic shift need not have disastrous consequences for public finances.

There is a further point: the future provision is not just a financial and economic problem but also conceals a moral problem. On what moral grounds is the 'unspoken' contract between the generations based? What implicit aspects of justice and the fair distribution of costs and benefits does the contract entail? Given the inescapable increase in the tax and social security burden as a result of the demographic shifts, how will the generations deal with one another, both at macro social level and in terms of micro relationships? These questions will also need to be addressed.

The need for further research

There are sufficient grounds for conducting more detailed research into the partly gloomy, partly realistic prospects outlined above. As the foreign debate indicates, these prospects can place the relationship between the generations under pressure. As noted the conflicts between the generations in the Netherlands are, admittedly, not excessive at the present time, when compared for example with the generational conflicts of the 1970s. Given the divergent interests of the various generations they could, however, develop into a new generational conflict. This then generates the need to determine where one stands, or at least to thoroughly study the accuracy of the scenarios that have been outlined.

Many existing surveys of future developments remain confined to a single problem area and the future developments are frequently shown as linear in nature. This does not take systematic account of the development of *other* matters or issues of potential relevance for the problem area. Predictions of future environmental charges often neglect *new technological developments* that could alleviate the future problems. The problems are placed in a dynamic perspective, whereas the capacity to solve those problems is treated as static. At the same time, however, it is possible for the technical capabilities in this area to be overestimated.

The *way* in which the problems of the future are outlined and analysed therefore itself forms part of the future relationship between the generations. That relationship is not simply determined by the demographic ratios and a numerical dependence (i.e. the ratio between the working population and that element of the population no longer working). Political images, social attitudes, the institutional facilities as these have evolved and expectations, together with the most accurate possible scientific analyses, provide the framework within which the future problems will need to be tackled.

1.2 THE PROBLEM

The central problem addressed by this report may be formulated as follows:

Under what conditions is the present solidarity between the generations, as expressed in numerous collective insurance and social security schemes and in other formal and informal transfers between the generations, to be continued so that reasonable requirements of sustainability and fairness can be met?

This problem in fact comes down to the question as to whether the present relationships between the generations need to be renewed or reviewed. In terms of a generational contract it could be asked whether this contract should be extended for an indefinite term or whether certain clauses should be amended. Which sections of the contract need renegotiation? In football terms one could speak of 'renegotiating the contract', i.e. entering into new agreements for a future period.

The essence of the issue concerning the relationship between the generations may also be formulated in the form of two questions:

- a the *sustainability question*: how can agreements concerning transfers be honoured without dislocating to the existing system?
- b the *justice/fairness question*: how can the costs and benefits be divided among the generations in such a way that within the various generations it will be widely perceived and accepted as just?

Both kinds of question play a role in the generational debate. By sustainability this report understands the continuity of a system for a particular type of transfer, such as the AOW, the environment or the health care system. The concept of fairness is less easily defined. It would at any event not be correct simply to interpret fairness as an arithmetically equal distribution of transfers. Within the economy efforts

have been made to estimate the degree of equality in the distribution of the burdens and income per generation in the form of generational accounts. The arithmetic assumptions underlying the generational accounts are, however, so uncertain that it has proven impossible to draw up a just balance sheet between the generations.

Clearly it is not always possible to empirically base fairness on an equal distribution. There are also legal and philosophical problems concerning the way in which it is defined, namely the problem of the as yet unborn generations and the problem of changing circumstances. From the literature the conclusion may be drawn that no one author has succeeded in formulating a consistent theory on the basis of which clear rights can be assigned to future generations. Nearly all existing moral theories and theories of fairness are based on the mutual dependence of *existing* parties or collectivities, where it is possible to speak meaningfully about the fairness of the mutual relations. Nearly every author does however reach the conclusion that there are certain *moral* obligations towards future generations in so far as we do not wish to leave a legacy of confusion or to exhaust all finite reserves. It is rare for authors to be more specific, apart from the fact that they regard saving and investment as an important activity on behalf of future generations, even if no obligation can be established to that effect.

The distribution problem between the generations as distinct from that between socio-economic classes raises another question that has yet to be answered properly. By definition, the generations live in historically different ages, for which reason it is difficult to maintain the principle that groups in society should be *treated equally in the same circumstances*. Furthermore economic growth is bringing about a steady improvement in well-being, thereby ruling out the use of absolute measures of equality.

A more limited interpretation of fairness has been used as yardstick in this report. Although it does merit separate attention it is not a criterion that is independent of sustainability. Fairness is to do with the prevention of:

- a the imposition of a disproportionate burden on certain generations;
- b a marked discrepancy between the expectations of the generations concerning the proceeds from a system of transfers and the actually received transfers.

This is not, as noted above, a matter of arithmetic justice between the generations. The assurance that a system of transfers – for example old-age provision – for which people are now making a substantial contribution can be kept in place (i.e. sustainability), albeit under certain strict conditions, probably carries greater social weight than a calculation of justice/fairness indicating how much more (or less) one generation is receiving than the other. In fact there is no contradiction between the objectives of justice and sustainability. A system that is widely regarded as unjust because people are burdened disproportionately will come in for criticism and become less sustainable. The converse – a lack of sustainability giving rise to unjust relationships – is also possible.

Furthermore, the relationship between the generations is concerned with more than just the fairness and sustainability of transfers. Good relations between the generations promote cohesion in society and create a culture that brings other advantages with it. Even if the elderly were to find themselves in a majority in society, it would not be merely unfair to make swingeing cuts in spending on education for young people but also imprudent as this would bring to an end or undermine a self-evident structure of mutual rights and obligations. A collective system of solidarity does not stand in isolation but is embedded in a much wider social context with implicit relationships of trust and supra-individual effects. Solidarity between generations is a specific example of the general phenomenon of social cohesion.

1.3 THE IMPLICIT CONTRACT BETWEEN THE GENERATIONS AND THE VARIOUS KINDS OF TRANSFERS

The Council has not solely confined the analysis of the generational issue to certain specific problems, such as the future of the state pension (AOW) and health care. Other important intergenerational transfers such as environmental management and technology were taken into account in order to strike a fairer balance between the generations. In contrast to AOW or health care, however, there is less certainty concerning the policy response to the management and preservation of nature and environment and therefore less of a social consensus concerning the necessary scope of environmental policy. This complicates the discussion about the future direction of such policies - although it is evident that decisions about nature and the environment, as well as decisions about the development of new knowledge and technology, taken by the present generations can have major consequences for the younger and future generations. The construction of a new airport, reclamation of inland waters or the development of woodlands for housing have unmistakable implications for future generations. The future is only partly knowable and our knowledge of the future is correspondingly limited. This also applies to the preferences that the present younger generations will have concerning these issues in 20 to 30 years time - let alone the preferences of future generations.

This fundamental uncertainty concerns both the numerous causal interrelationships between decisions now and the consequences later. This uncertainty in the various individual fields and concerning their interrelationships and the by no means limited chance that the preferences of future generations will differ from the current preferences provide grounds for major caution in framing policies that seek to take account of generational problems. On the one hand it is necessary to take all sorts of decisions now and thus to incur risks for the future, while on the other it is undesirable to already now deprive later generations of any policy freedom. A combination of the willingness to take risks and a sense of responsibility towards the future and the – as yet unarticulated – interests of future generations therefore form a substantial element in a generationally-aware policy. The inability to look far into the future in combination with the responsibility for the consequences of current decisions is a good example of the fact that the link between the generations can never be fully established. For this reason one tends to refer to the implicit contract between the generations, as a complex of tacit, non-explicit agreements. It is implicitly expected that certain obligations and expectations will persist or be passed on. Any attempts to render those implicit agreements explicit are apt to be counter-productive. In addition contracts that seek to strike a balance between the generations are possible within extremely limited sectors only.

The observations in this report indicate that the intergenerational transfers within sectors cannot be viewed in isolation from one another and that quantification of the extremely sizeable transfers in the environmental and technological spheres is not feasible. The desire to strike a balance in the transfers for each generation and the issue of fairness sometimes linked to that thereby lose their significance. The guideline for a generationally-aware policy tends instead to be the concern for *sustainability*, under which the implicit balance of transfers between the generations is maintained as far as possible.

NOTES

1 The pension system under which each Dutch person aged 65 and over is entitled to a benefit equal to the guaranteed minimum income.

2 CHANGES IN THE SOCIAL CONTEXT OF TRANSFERS

2.1 GENERAL

The solidarity between the generations is clearly under pressure. In this regard a link may be established with the demographic trends, namely the changing composition of the population as a whole, with more old people in relation to young (i.e. ageing). Apart from these demographic changes, shifts are taking place at much the same time in the life-cycle pattern of virtually all age groups in society. Young people are staying at school for longer before entering the labour market, greater numbers of women are entering and stay in the labour market, children are being born later and there are more divorces. Parents leave the labour market at an earlier age and thus a third life stage is being ushered in for relatively prosperous, healthy and unencumbered parents. Old age with infirmity does not come until a later (fourth) life stage.

Apart from ageing and the changes in the life-cycle model, international developments would appear to be an important factor.

2.2 DEMOGRAPHIC BACKGROUNDS

The population structure does not necessarily involve absolute numbers but the relations between the various age groups. Following the baby boom in the Netherlands immediately after the Second World War, the number of births fell rapidly in the second half of the 1960s. This was followed by a rise in the age at which women bore their first child. This pattern of low fertility is expected to be sustained, so that a population structure with a relatively high number of old people needs to be allowed for beyond 2035 as well.

The implications for the economy are discussed in this report. One thing is clear: the urgency of a good analysis of the consequences of ageing for society as a whole is already clear at this stage. This need will become all the more pressing in the period ahead. After 2010 the baby-boom generation will turn 65 on a mass scale and it will take until 2035 before the consequences of the demographic trends have stabilised (see Table 2.1).

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	0-19 years	20-64 years	65+ (of which 80+)	Total	
1998	24	62	14 (3)	100	
2005	24	62	14 (3)	100	
2010	24	61	15 (4)	100	
2015	23	60	17 (4)	100	
2020	22	59	19 (4)	100	
2025	22	58	20 (5)	100	
2030	22	56	22 (6)	100	
2035	22	55	23 (6)	100	
2040	22	55	23 (7)	100	
2045	22	55	23 (7)	100	
2050	22	56	22 (8)	100	

 Table 2.1
 Population by age groups in the Statistics Netherlands (CBS) population forecast (Netherlands, 1998, middle variant, %)

2.3 CHANGES IN THE LIFE-CYCLE MODEL

Even in the absence of marked demographic changes a problem would have arisen with regard to old-age provision in that the demographic shifts have been coupled with important changes in people's life-cycle models. These have a direct bearing on the relationship between the generations and are an important factor in the solution of the anticipated problems.

Effective insight into future developments therefore presupposes more detailed information on changes in life-cycle patterns. In fact many of the surveys of the future conducted to date assume on the basis of the demographic data that people's life courses follow a fixed pattern: education until the age of 15 followed by employment until age 65. This does not take account of the fact that the pattern of life is changing over time. Taking the age of 15 as the lower limit for determining the labour force is not in fact correct, as many do not commence employment until a later age. The same applies to taking age 65 as the upper limit; this is too high given the point at which people tend nowadays to withdraw from paid employment. Nor is it any longer the rule – as used to be assumed in income and social security schemes – that men were the breadwinner for a family until a reasonably advanced age.

In a preliminary study to this report Liefbroer and Dykstra (2000) examine the changes in the life-cycle models of successive cohorts of men and women born in the Netherlands in the 20th century. A number of findings are examined briefly below.

The *first* life stage – that of childhood and adolescence – is characterised by an extension of this stage, with the deferred acceptance of social responsibilities and a longer dependence on social transfers. An indication of such deferred social responsibilities is to be found in the marked increase in the age at which full-time education is completed.

A characteristic feature of the *second* life stage – that of adulthood in a social sense – is the increasingly brief duration of the period spent in paid employment. The second life stage is also characterised by the increasingly cumulative nature of social obligations (such as employment and family care). This is related to the shift in the period of participation in paid employment by women, initially before the formation of a family and later during that stage. The declining number of children is offset by the increasing length of time that children are dependent. The extended duration of such dependence is also evident from the higher age at which education is completed and at which people become economically independent.

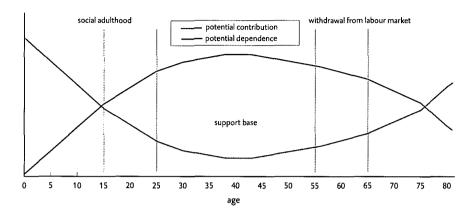
Younger age-cohorts cease performing paid employment at an earlier age. As a result a new kind of *third* life stage has arisen. Not only is this third stage new but it also shows signs of continual extension. This means that people may be old in a social sense but are generally still healthy. This stage is the mirror image of adoles-cence. In both stages people bear less social responsibility than they would in fact be able to.

The *fourth* life stage – that of advanced years – is lasting longer with the increase in life expectancy among older people. This is a life-cycle stage in which there is a high take-up of health care and hence also marked dependence on financial support by younger age categories.

These developments have meant that the economic base for collective transfers is shrinking and that the period in which people are dependent on collective transfers is becoming longer. This trend is shown in Figure 2.1 comparing the potential contribution with the potential dependence. Both are dependent on biological and social factors that play a role as people grow older. The figure reveals that the shift in the limits of the first and second life stages described above has created a smaller economic base for transfers (i.e. the number of persons in the second life stage). Furthermore the number of dependent persons in other life-cycle stages is rising, but at the same time less is being demanded of people in this category in terms of the potential social contribution they could make. In combination with demographic trends, the new life-cycle patterns could create problems for the sustainability of the system of transfers between the various age categories representing the various generations.

Thus, the relationship between the generations is under pressure from more than just demographic shifts in the population structure. Even without marked demographic shifts a problem would have arisen with respect to old-age provision in that the demographic shifts have been coupled with equally as important shifts in people's life-cycle patterns. Generally speaking people stayed at school longer before entering the labour market; they got married later, got divorced more frequently and – especially over the past 20 years – left the labour market at an earlier stage under schemes such as early retirement (VUT)¹ and the disablement insurance act (WAO)². More women began performing paid employment outside the home, albeit often part-time.





All these changes in the life-cycle patterns directly affect the relationship between the generations and have a bearing on the solution of the anticipated problems. Given the longer time that young people spend in education (from age 14 to 20) and the earlier withdrawal from employment of older people (from age 65 to 55) there has been a structural reduction in the economic base for collective provision. The load-bearing generation, by contrast, is bearing a heavier burden on account of the combination of paid employment, caring for children and (quite commonly) care of parents. In addition a separate, third life stage has arisen in respect of often healthy, well-off older people (aged 55-70), who participate far less in the formal employment and care systems but remain capable, healthy and independent. Both the deferred responsibilities of younger people and the increasing burden in the active phase of life and the non-participation of the elderly in the third life stage are creating their own problems for the relationships between the age groups.

In its report the Council reaches the view that these changes in the course of life provide grounds for a new generationally-aware policy that takes account of these shifts. In the first place they point towards a policy that would encourage the shortening rather than extension of the phase of initial education, with more explicit account to the combination of employment and education. This would set limits on the deferred social responsibilities of young people and would mean that educational efforts were more effectively targeted, namely more in a situation of 'lifespan learning'. Under this notion the acquisition of new knowledge and skills in a rapidly changing society should take place throughout people's entire (active) lives. This means that those in employment and not just young people in education need to invest time in education. If compensation is not sought elsewhere this will result in a further narrowing of the economic basis, in that time for learning will be largely at the expense of work. This too points in the direction of limiting the continuing extension of the initial education period and learning to combine employment with education - which people need to do throughout their lives. In addition lifespan learning should preferably be aimed at a later exit from the labour market. In order to achieve the increase in labour force participation by older people that is required for the sustainability of collective

provision, it must be prevented that these older people have to withdraw from the labour market due to obsolete employment qualifications.

In itself the growing labour force participation of women is also a precondition for the sustainability of collective provision. In many cases family formation does however result in withdrawal from the labour force or a reduction in the working hours of women – with the additional threat that their professional qualifications may get out of date. In a society in which two-income families are increasingly becoming the norm, households with children which decide to handle the caring themselves generally suffer from a relative shortfall in income – and that in the period in people's lives when expenditure tends to be high. By bringing up children they do however make a contribution to the new generations. In terms of a generationally-aware policy, transfers to households with children may therefore be desirable in addition to facilities to promote the combination of employment and care. Efforts should be made to achieve a better coordination of income, education and labour market policies.

Many elderly people are finding that they are taking retirement at a time when they are still in comparatively good health; they are not required to stop work on health grounds. In addition this is a time of life at which caring responsibilities have diminished sharply. One great advantage of stopping work is that people are able to undertake activities for which there was no opportunity while they were still in employment. One disadvantage, however, is that work plays an important role for a satisfactory participation in social life. In an ageing society it is doubly undesirable for older people to feel sidelined or too old still to make a meaningful contribution. It would however be possible to expect responsibility for the formal care of the very old to be handled in part by older members of the workforce.

An approach such as that above could give rise to a policy which, in a general sense, seeks to promote the possibilities for combining education, employment, leisure and care. In policy terms these activities are placed in life-cycle stages that remain highly compartmentalised. This applies not just to the transition between education and employment but also to retirement. The elderly may wish to retire to go on the world cruise for which – if they wait too long – they will no longer be healthy enough. On return from the trip, however, they may then find themselves permanently retired within the present system. Given more flexible retirement arrangements this need not be the case.

2.4 THE INTERNATIONAL CONTEXT

The background to the generational issue is not confined to ageing and changes in the life-cycle model. The changing international context is also a factor. Nearly all collective social security systems for the elderly were developed in a period in which the national scale of the economy had primacy. The security guarantees were linked to employment in national enterprises. The costs of these guarantees formed an element of the national economy. The solutions to the growing financial burden are however under pressure from the international competition and monetary arrangements. Despite the fact that virtually every country in Europe is faced with the same generational issue in the short term (with the exception of still relatively 'youthful' countries such as Ireland and Poland), there is not a single European country that can permit itself to make unlimited payments to the older, non-working population.

The accession to EMU also sets limits: in principle each affiliated country will need to have a balanced budget and the financing deficit may not exceed 3 per cent. This imposes radical limitations on the solution of the state pension financing problems during the period 2010-2035.

How the various countries in Europe will tackle their individual generational problems remains totally uncertain. The problems vary from one country to another on account of the specific composition of the population in combination with the historically evolved and institutionalised old age provision. The Netherlands occupies a favourable position with respect to pension savings (in comparison for example with France and Germany) but will encounter more problems than the UK in continuing with the pay-as-you-go system for the state pension.

NOTES

- A scheme under which early pension is financed by contributions paid by the working element of the population.
- 2 A social security scheme under which those unfit for work have an entitlement to a benefit.

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GENERATIONALLY-AWARE POLICY

3 GOVERNMENT POLICY AND INTERNATIONAL TRANSFERS

3.1 THE RELATIONSHIP BETWEEN THE MICRO AND THE MACRO SPHERES

Parents, children and grandchildren in larger or smaller family contexts have had a duty of care towards one another since time immemorial. Although this duty may vary from society to society (in India for example one of children's main duties is to look after their parents, while in western countries one of parents' main duties is to care for their children), it nevertheless forms a strong link between the generations at nuclear and extended family level. Familial links are coupled with a sense of responsibility for child-raising, financial maintenance and mutual support and care. First, older people care for the young ones. When growing older, however, roles will reverse. Traditionally young people will then care for parents or older people who have become dependent. Sometimes a generation is skipped, with grandparents taking over upbringing responsibilities from their children or the younger generation caring for the oldest.

This traditional pattern of familial solidarity has also changed with the advent of the modern welfare state and its multiplicity of collective care and insurance systems. Although there remain significant social relations and help/care systems at micro level, a collective and publicly funded system of care was introduced side by side with and not after the family system. The primary goal of the collective system was to reduce undue dependence by parents on their children and the latter's level of prosperity or even to terminate such dependence altogether. Nowadays it is rare for children to support their dependent parents fully in a financial and social sense and to care for them in their own home, as is customary in many non-western cultures.

The collective system of care has a number of macro features. In the first place it is no longer a matter of generations in the sense of familial relationships but of a clustering of cohorts in a certain relationship to one another by means of employment, contributions and taxation. All those employed and not-employed, with or without children, share in the bonds between the generations (here in the sense of large clusters of cohorts).

Secondly, intentionally or otherwise, the macro system exerts influence on the micro relationships. If the state starts to care for an aged mother, this eliminates that element of care which the children could provide. This goes beyond financial support alone. Particularly in the case of the care of the elderly there is a new interaction between the care provided at micro level by relatives and the care provided at community expense, i.e. between informal and formal care. Both financially and organisationally the current system of health care is not proof against an increase in demand – as is inevitable with the process of ageing. It is tempting to fall back on

familial support and care to meet that demand. In practice such support is in fact provided (generally by daughters or daughters in law), but the practical limits must also be taken into consideration, not least in the light of an official policy aimed at increasing the labour force participation of women.

Informal care will fall short in terms of both scale and professionalism. This should have consequences for the future financing and organisation of care of the elderly. Also consistent with this is an appeal to the individual responsibility of young people to plan ahead and to make greater private savings than at present for the costs of their care once they themselves grow (very) old.

In the Council's opinion it is not possible for the future problems in the macro sphere of health care to be coped with by means of a greater resort to care and support in the macro sphere. The micro and macro spheres in care are not fully substitutable. This observation has consequences for government policy: a system of privately funded professional care arrangements, particularly as regards personal help and care, will need to offset the deficiencies in the public system. The demand for health care will continue to rise while the supply of labour continues to lag behind. Measures will therefore need to be taken to increase the supply of labour in health care, for example by drawing more heavily on women returning to the labour force, by reducing staff turnover in health care and by making the caring profession more attractive. Informal care has a larger support base than often supposed, but even so care for the very old who lack a supporting partner will generate problems. Improvement of the conditions, including those for the provision of informal care, will therefore be required.

3.2 INTRAGENERATIONAL AND INTERGENERATIONAL TRANSFERS IN THE MACRO SPHERE

A highly important aspect of collective transfers is the interwoven nature of intragenerational and intergenerational transfers. The primary focus of government policy is on the provision of public goods and services and the related distribution issue. The concern here is with a transverse distribution among now living cohorts. The longer the period taken into consideration, the more that those alive now form part of a single generation, meaning that we have *intra*generational distribution. The term *interg*enerational distribution is reserved then for the redistribution between societies widely removed in time. The various positions of cohorts with their own history can however play a role in transversal, intragenerational distribution.

The introduction of the AOW state pension, for example, needed initially to be viewed in the light of the efforts to distribute prosperity among the citizens more evenly. The initial aim of this policy intervention was to bring about greater equality between the older people who had been responsible for post-war reconstruction, starting from a low level of prosperity, and the younger people who had benefited in full from the rise in prosperity following this reconstruction process. At the same time this example demonstrates that the intragenerational distribution problems faced by the government cannot be viewed in isolation from the intergenerational transfers. The introduction of the AOW meant that the government was making a long-term commitment under which younger people in the working stage of life would make transfers to the older people who had completed that lifecycle stage. At the same time government policies aimed at education, technology and the environment have also resulted in transfers between the generations.

A key element in this report is that the political discussion and decision-making currently relate primarily to the distribution and redistribution of burdens within generations ('purchasing power figures') and almost entirely neglect the sideeffects of this distribution policy for intergenerational transfers. The call made in this report for a generationally-aware policy is designed to increase awareness in the policy formulation process and the political debate that intragenerational redistribution also affects intergenerational transfers.

3.3 RELEVANT POLICY AREAS

The government policy statement of the present Dutch coalition (Purple II) contains the following extract on social cohesion:

Een beschaafde samenleving waarin mensen niet langs elkaar heen leven wordt ook gekenmerkt door solidariteit tussen generaties. Voor de generatie 65-plussers is essentieel dat zij kan rekenen op een welvaartsvast pensioen en continuïteit in de regelingen ten aanzien van hun aanvullend pensioen. Van minstens even groot belang zijn kwalitatief hoogwaardige en toegankelijke zorgvoorzieningen. Door vermindering van de schuld- en rentelasten zal worden voorkomen dat de jongeren van nu in de toekomst de ouderen van de rekening worden. (Regeringsverklaring 1998).

[A civilised society in which people do not just go their separate ways is also characterised by solidarity between the generations. For the over-65 generation it is essential that they are able to rely on an index-linked pension and continuity in their supplementary pension arrangements. At least as important are high-quality and accessible care facilities. By reducing the national debt and interest burden it will be ensured that the young people of today do not end up holding the tab as the elderly of the future. (Government Policy Statement 1998)]

The solidarity between the generations has two sides: on the one hand ensuring the rights built up by the elderly and, on the other, making sure that the costs of those entitlements are not fully passed on to the younger generations. The achievement of this twin aim is more easily said than done. The policy problems referred to in the quoted extract – the continuity of old-age and pension provision, high-quality and accessible care facilities and the national debt – are all three sensitive to demographic shifts. The imminent ageing of society in fact raises the question as to whether existing entitlements and the current distribution of the burden (in the form of taxation and contributions for government-organised transfers) can remain unchanged.

This report deals with a number of policy problems that are the most affected by the demographic shift towards an ageing society. These policy problems are examined here specifically in terms of the generational problem.

In the first place it turns out that this generational problem is not clear-cut – partly because the concept of generation itself has been and continues to be used in continually varying ways. The generational problem conceals a number of important distribution and redistribution mechanisms that need to be kept separate, however much they may have become bound up with one another.

The solidarity between the generations takes place at both micro level (the relations between parents/children/grandchildren) and at macro level (the mandatory or voluntary participation in risk-sharing and care programmes). For centuries parents' concern for the upbringing of young people and the care provided by younger people for the older generations have taken place within the nuclear and extended family context. This generally remains the case even today. At micro level the traditional solidarity between the generations remains firmly entrenched.

At macro level there are at present no striking generational breaks or conflicts to be discerned. With the developments at macro level however of risk-sharing and risk-spreading programmes – particularly with the construction of the post-war welfare state – the government has intervened in the relationships at micro level. The elderly are no longer solely dependent on the benevolence, love, financial position and care of their children for their old age provision. A legally guaranteed state pension has been introduced, financed by a pay-as-you-go system. Collective arrangements have also been made for medical expenses, with consequences for the private sphere.

It is precisely the collective systems guaranteed by the government and financed by a pay-as-you-go system or other forms of solidarity that may come under pressure from the demographic shifts. The combination of many older people no longer in employment and a fall in the proportion of those in employment inevitably means an increase in contributions given unchanged benefit levels. This development will be accentuated to the extent to which the ratio between the employed and nonemployed shifts in favour of the latter during the period 2010-2035. This will at any rate apply in the case of unchanged policies.

The collectively financed systems for retirement and care are not the only forms of government policy affecting the transfers between the generations. Education is an important form of transfer that generally operates in the reverse direction, from old to young. In addition there are transfers arising from government policies concerned with technology and the environment. Government policy towards the national debt also contributes towards the transfers between the generations.

The Council's analysis of a number of policy fields of relevance for this problem indicates that the generational perspective is required in order to assess the conse-

quences of policy in the longer term. Political decision-making is at present heavily oriented towards present-day distribution problems and present-day interests. A politician looks to the next election; a statesman also looks to the next generation. In the choice between ad hoc distribution problems and the anticipated distribution problem in the longer term, a policy that wishes to take account of the interests of young and future as yet unborn generations will need to be guided by the latter problem. GENERATIONALLY-AWARE POLICY

4 TOWARDS A GENERATIONALLY-AWARE POLICY

4.1 JUSTICE AND SUSTAINABILITY

With this report the Council is seeking to make a contribution towards the conscious and consistent application of generational perspectives and hence to contribute to the formation of a *generationally-aware policy*. The question then arises as to what measures should be employed. This report has opted in favour of the measures of sustainability and justice of government policy, as seen from the viewpoint of the generations. This question can of course not always be answered in the same way. In the case of specific policy problems such as the future of the state pension and health care it may be possible to be more specific than in the case of the preservation of nature and the environment. But here too the decisions taken by the present generations have major implications for the younger and future generations.

Problems with the application of justice as a criterion

Of the two criteria of justice and sustainability the latter provides the better guideline for generationally-aware policies. The consideration of a just distribution between the generations does not afford any ready-made solutions, for three reasons:

- 1 the changing historical circumstances;
- 2 the lack of a discussion forum; and
- 3 the practical impossibility of an overall evaluation.

The most fundamental consideration in demonstrating that justice cannot be used as a measure in assessing government policy is related to the fact that the circumstances in which each generation lives differ markedly from those of previous or future generations. The prosperity, security, international relations and development of technology mean that each generation will have its own pattern of life that differs from that of other generations.

The generations do not therefore find themselves in equal circumstances, and justice in the sense of equal contributions in equal circumstances is not therefore achievable (as a further complication the changing circumstances are themselves in fact often the result of intergenerational transfers). From this it also follows that changes in circumstances must lead to changes in the contributions that people make and the benefits they receive. In times of adversity each generation forming part of society will experience the consequences, while if prosperity rises each generation will also benefit. In the case of rising prosperity one accordingly sees the elderly benefiting, because the state and other pension arrangements are adjusted accordingly. If society runs into adverse circumstances the effects are also bound to be felt by all the generations. In other words, changing circumstances affect all the generations alive at that time. It is not possible to exempt one particular generation from those consequences, for example the elderly, because they have made a certain contribution in the past. They also share in good times and bad as circumstances change. Precisely how the costs and benefits should be divided is a matter for political deliberation at the point at which the change in circumstances becomes manifest. The fact that older people are no longer able to work may be a reason for treating them differently from young people.

One of the changes taking place is the ageing of society. This is changing the circumstances of both younger and older people. There is therefore no obvious reason to confine the consequences to one particular generation. More specifically, if the burdens of the system are increased as a result of ageing it would not be logical for just the younger, working generation to contribute towards these extra charges. In essence this is however what happens under the present AOW system, in which the elderly themselves no longer contribute towards their collective old-age provision.

More generally it may be said that a scheme in which solidarity between the generations is reflected is due for review if a change in circumstances brings about a change in the distribution of costs and benefits. This means that an arrangement designed for a stationary population structure is due for review in the light of ageing. A similar line of reasoning could be followed if the health care system increasingly involved the provision of care for the elderly, as this fact alone would mean a shift in the benefits to the older generation.

Secondly, it must be possible for all those concerned to take part in any debate about justice. Future generations are not, however, as yet present. Nor do we know their preferences. Those acting today as advocates on behalf of future generations are essentially representing their own preferences with regard to a just distribution between the generations and are not reflecting the different values which future generations could and presumably also will have.

The third reason why justice is not a readily defined criterion that lends itself to operationalisation stems from the pragmatic fact that placing a value on the transfers between the generations is so complex and difficult that the results are comparatively arbitrary. Generational accounts suggest that the contributions and benefits of the generations can be identified and compared, but are unable to bear this out in practice. Precisely on account of this false sense of precision and the incorrect association with 'justice' the Council has decided against any attempt to draw up all-embracing generational accounts in which the value attached to (for example) environmental capital and technology would also be taken into account.

Sustainability

Sustainability by contrast does lend itself to definition and operationalisation. The sustainability criterion requires no more than that the present institutions that are assumed to represent current preferences can be maintained in the future. This

does not detract from the fact that future generations might well have different preferences from those of today. It will then be their concern to fashion a new and sustainable future for these new preferences. While sustainability might not appear to be a particularly idealistic or lofty criterion, it does at least provide a frame of reference and a minimal yardstick, in that a non-sustainable course of action can by definition never be either effective or just.

When the intergenerational aspects of the distribution issue are lost sight of, the direct consequences are at their most evident when it comes to the question of the sustainability of the collective system of old-age provision and health care. By the sustainability of these facilities and care this report understands the ability to continue with the system in a form now deemed acceptable, for example with the guarantee of a certain benefit linked to living standards or a certain quality of medical care. Sustainability does not necessarily mean that all the present rules and regulations (for example the level and duration of contributions, the level of benefits or the size of the disbursements) can remain unchanged. Specific elements of this kind can be modified in order to bring the system into line with changes in preferences and circumstances. Such ability to adapt in line with changed circumstances is in fact a form of institutional sustainability.

Another aspect of sustainability is the willingness of the population to maintain the system as a whole and to raise the necessary financial resources and take the necessary measures. As this willingness is assumed to apply to all generations, the burden of maintaining the system must be shared as fairly as possible.

Justice, sustainability and a generationally-aware policy

A generationally-aware policy does, however, go further than just bearing sustainability in mind. The lure of the ideals of justice and efficiency cannot simply be appeased by the assumption that flagrant injustice and inefficiency in the distribution between the generations will prove unsustainable in due course. A generationally-aware policy means actively anticipating the future and the interests of future generations, on the basis of the preferences of the current generations and taking account of the various positions in which the generations find themselves.

This qualification of the concept means, first, that it is possible to depart from the notion of intergenerational justice, in the sense of 'bean counting', in an effort to arrive at a fully equal distribution between the generations. Secondly, this approach provides greater policy support for arguing in favour of certain changes than does the concept of sustainability alone. This approach is based on a policy arrangement as agreed previously and indicates that – as circumstances have changed – this agreement has other effects now than anticipated in the past. This provides legitimation for change, in which sustainability will remain a precondition. Under this line of approach, the abolition of age-related exemption from state pension contributions¹ is not just a logically possible policy response to demographic trends aimed at sustainability. Such a measure is moreover justified because the social circumstances on which the present financing system was based

have been or will be superseded by the growth in prosperity. This line of argument can also be applied in other fields, such as the financing of health care and education, and to the financial relationships between employed persons with and without children.

In addition the issue of consistency over time requires attention. Arrangements for which there is public support at the present time will only be sustainable if it may be assumed that they will also enjoy such support in the future. Support need not just arise from direct self-interest. Young people may for example support the principle of the state pension as this reconfirms the principle that provision must be made for older people. When they themselves grow old they will benefit from the acceptance of that principle. But this mechanism only works if there is a realistic expectation that the next generation of young people will in its turn reconfirm that principle.

4.2 THREE PRINCIPLES OF GENERATIONALLY-AWARE POLICY

In order to ensure that the consequences for various generations are taken into account in the framing of policy it is necessary to formulate a number of principles. These are aimed at preventing decisions from being taken without regard to the consequences.

A generationally-aware policy is based on the following principles:

- a A *consistent long-term estimate* is made of the consequences of government policy for the relationship between the generations. How should an increase or decrease in the national debt be viewed in the light of the relationship between the generations? What effect will measures to promote labour force participation have on future transfers? What consequences will the current decisions on health care have for older and younger people in the future? Similar questions may be posed in many areas.
- b All the generations bear responsibility for the solution in due course of new issues faced by society. This also applies to the changes arising from the demographic transition (i.e. ageing) or from changes in health care. If the process of ageing imposes a major financial burden on old-age provision that burden should not be borne by any one generation. If the elderly were for example to draw attention to the fact that they have contributed towards their state pension over many years and so wanted to be treated just like previous generations after turning 65, it may be countered that the circumstances have changed as a result of ageing. The same applies to the actual care that is provided which partly as a result of the growing medical possibilities is imposing an ever greater burden on the public. The point of departure needs to be the attitude that all generations share the responsibility to find a solution to problems in the long term, rather than the attitude that each generation should receive precisely as much as it has put in. The Council's analysis indicates that a 'generational claim culture' is based on an argumentation concerning justice that mistakenly fails to take

account of the many hidden or incalculable aspects of the transfers between the generations.

c Each generation has a need for a balanced distribution of activities over the course of life. The eternal cycle of succeeding generations calls for the mutual ability to empathise in the different position of the succeeding generations. The Council's analysis indicates that what is often regarded as an intergenerational transfer turns out on closer inspection to be an intertemporal transfer from a younger to a later life-cycle stage. The age-group problem – i.e. the distribution between young and old – exists in every society irrespective of the size of the various categories. Each generation should have the opportunity of a balanced distribution of activities, including the costs and benefits, over the course of life. If people's life patterns change – partly as a result of social developments – there must still remain the possibility of a balanced distribution over the course of people's life. This needs to be taken into account in policies having implications for the distribution of education, employment, care and leisure time over the course of people's lives. Measures must also be taken to prevent the younger generations from being the victim of foreseeable cost increases on behalf of the elderly that were not taken into account in good time. Otherwise there is the danger that in response to the process of ageing - which also applies electorally cuts are made in spending on younger generations, especially as regards upbringing and education. The Council warns against such a development. In the same way that younger people develop the realisation that they will inevitably one day form part of the elderly – and on that basis contribute towards a system of health insurance - so the elderly need to remind themselves that they too once expected good educational facilities. Social cohesion depends to a large extent on the automatic alternation of the generations. This crucial insight need not be lost under the strong pressure created by the shifts in the population structure, provided those shifts are anticipated in good time.

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¹ Which also means that persons aged 65 and over contribute through taxation to the AOW.

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5 CONDITIONS FOR A GENERATIONALLY-AWARE POLICY

5.1 GENERAL CONDITIONS

Generationally-aware policies in relation to public provision involves looking at the sustainability of the overall complex of government obligations now and in the future. In particular these include government expenditure that is heavily affected by demographic shifts, such as the state pension and health care, as well as government obligations in connection with the national debt and the associated interest payments. The Council's analysis has revealed that the sustainability of the AOW and the collective health care system need not be at risk in the long term provided that three conditions are satisfied:

- In the first place it is important that the economic base for government expenditure is increased by a further rise in the labour force participation rate. To this end it is necessary that early retirement be reduced and replaced by a more conscious policy of flexible retirement for people's own account, including the ability for people to continue working beyond the age of 65. It is also necessary to eliminate obstacles towards the labour force participation of women.
- 2 Secondly it is necessary to control the rise in health care spending due to factors other than demographic change. This increase in expenditure may not outstrip the rise in prosperity, so that a demographically stable population spends a stable percentage of GDP on publicly funded health care. The growing level of aspiration and the pressure of technical developments have meant that per capita public spending on health care has been rising more rapidly than per capita income over a lengthy period. Such an increase is inconsistent with a preference for or a more or less constant ratio between public and private expenditure.
- 3 Thirdly demographic changes make it necessary to anticipate future increases in expenditure. This can best be done by redeeming all or most of the national debt over the next 20 years, thus releasing the present interest payments as a source of funding for the anticipated increase in government spending and so creating the necessary financial leeway for the future. Under the present circumstances the systematic reduction in the national debt ratio, the size of which continues to weigh on the financial leeway for the succeeding generations, is one of the fundamental principles of a generationally-aware policy. The intergenerational distribution over the long term tends, according to the Council, to receive insufficient weight on this score in relation to the intragenerational distribution in the short term. In order to achieve a reduction in the debt ratio, the State budget will need to be in surplus for an extended period. In a strictly technical sense this is not particularly difficult, as it would involve only a comparatively limited rearrangement of government spending (approximately 0.2-0.5% of GNP). The falling interest payments on the shrinking national debt ratio make it

possible to achieve the necessary surplus for redemption purposes despite the process of ageing. In a political sense the repayment of the national debt may well mean a challenge. It does however need to be borne in mind that the necessary measures will become more radical the longer they are postponed. Furthermore it is highly important for the government to make it clear in the short term what measures it intends taking. Otherwise confidence in the sustainability of the system will be undermined – which could in due course even undermine the system itself.

Maintenance of the Stability Pact

With its comparatively marked emphasis on savings, the Dutch pension system stands out positively from those in surrounding countries. This means that in the Netherlands it will be possible for the demographic pressure of ageing to be coped with more effectively than elsewhere. The special position in the Netherlands makes it particularly important for the requirements of the Stability Pact to be sustained, so as to prevent the consequences of stagnating restructuring programmes in other European countries from being passed on to the Netherlands. The Netherlands therefore needs to urge that the impact of demographic changes on the budget (or: the financial position) of the member states be made visible, so that this can be taken into account in assessing the position of the participating countries.

5.2 PENSIONS

Three pension pillars

There is no reason for the collective responsibility for an acceptable system of basic old-age provision to be opened up to debate. The mixed Dutch pension system of pay-as-you-go and full funding fits in well with the recommendations by the World Bank for a three-pillar system.

The first pillar is a tax-funded state pension designed to guarantee a minimum level of income. The pay-as-you-go system is motivated here by the transversal redistributive character and the intended welfare robustness: the tax base and tax burden follow the same growth pattern, apart from demographic developments. The task for a generationally-aware policy is to ensure that the collectively funded basic provision can still be sustained in the event of demographic transitions.

The second pillar consists of the totality of private, funded supplementary pension arrangements designed to assure income continuity. The system of funding emphasises that each cohort is in principle responsible for its own old age in so far as this exceeds a certain minimum level. Sustainability requires that funding is taken sufficiently seriously in that the members in pension schemes should share in the risks of an over-return or under-return to a greater extent than has been customary so far. This means that on the continuum from defined benefit to defined contribution pension schemes would shift in the direction of defined contribution. This emphatically does not concern a reduction in the level of aspiration but a more balanced sharing of the risk. The collectivity protects individuals against short-sightedness and uninsurability. The collectivity also enables solidarity between cohorts. This solidarity between cohorts provides a clear added value on top of individual pension arrangements as the downside risk of an inadequate capital reserve can be reduced by means of transfers between cohorts. These transfers take place by means of additional contributions in bad times and by means of capital buffers. The currently available, unplanned capital buffers provide a favourable starting point for systematically holding a greater level of capital than required for the accrued entitlements.

The mix of pay-as-you-go and funding in the first and second pillar is in itself a way of risk sharing. In themselves both systems are stable and efficient, but they each have their own risks. Models of overlapping generations indicate that changes in the mix between pay-as-you-go and funding always demand a net transfer of prosperity between generations. The third pillar, finally, consists of individual savings to meet individual aspirations; it would not be effective to compel individuals to make collective pension savings above a level they desire. The collective level of aspiration for the pension provision must therefore remain confined to that which is generally regarded as desirable.

AOW

As noted, the starting point for a generationally-aware policy – namely that all generations bear responsibility – means that older people can also be asked to help maintain public facilities. One means of doing so is to finance the AOW from taxes rather than by premium contribution, as is currently done and from which pensioners are exempted. This makes it possible for the tax rates for young and old to be brought closer together, so that in net terms older people with sufficient other earnings and capital contribute towards the AOW of their less well-off contemporaries. The importance of maintaining the system has primacy. In view of the demographic shifts – for which nobody is to 'blame' – the Council considers it fair to ask the older generations to make a contribution.

The second pillar: intergenerational risk management in the pension sphere

The idea could take hold that a generationally-aware pension policy should concentrate *exclusively* on the public sector, especially the AOW. Nothing could be less true, since the second pillar of the Dutch pension system involves a complex system of transfers. Most of these transfers are intertemporal, from one life stage to another, but there are also transfers between individuals, both intragenerational and intergenerational. A distinction may be drawn in respect of these transfers between redistributive *ex ante* transfers on the basis of subsidising solidarity and non-redistributive *ex post* transfers on the basis of risk solidarity.

As a group cohorts are able to take out insurance against the risks of inflation and the rate of return by means of collective supplementary pension arrangements. Such insurance is not possible within cohorts as all the individuals in the cohort share the same economic environment. The intergenerational pooling of risks provides benefits for all cohorts. In the environment that has been modelled here the risk reduction obtained by participation in pension funds in comparison with a situation without risk-sharing amounts to around one third. In the case of an individual, the realised pension result tends to have a much greater spread than that for a pension fund member. In order to be sufficiently sure of his pension an individual with professional investment expertise will need to invest around 25 per cent more in his pension than a fund member. *On average* he will consequently also build up 25 per cent more pension than he considered desirable.

Redistributive ex ante transfers between cohorts may be attributed to demographically non-neutral financing methods. They have little to do with the pension system in itself, which mainly determines which risks are insured. They have even less to do with the level of aspiration of pension schemes. Too much redistribution ex ante may undermine the legitimacy of collective pension schemes since certain individuals or cohorts will on balance predictably benefit more than others – possibly even so much more that certain individuals or cohorts lose in comparison with strictly individual pension build-up. If too much solidarity is demanded, members will try to withdraw from the collective system, which will then become untenable. Moreover, the advantages of the intergenerational risk-sharing in a collective scheme will also be lost. In these circumstances it is more efficient to reform the pension systems in such a way that they are financed in a demographically neutral and actuarially fair way, so that the motivation to withdraw is eliminated. The more neutral the method of financing, the less the contributions will be perceived as a collective burden. From the above it follows that the level of aspiration of the second pillar should be such that the average member of the second pillar can obtain an acceptable pension.

The third pillar

The third pillar should be aimed at those individuals wishing to make above-average savings for their pension: for the top-up they are dependent on the less efficient individual path. The legitimation of relatively sizeable mandatory schemes, however, demands that they must offer rather more for their money at individual level than at present. This implies an *ex ante* reduction in the redistribution in relation to the present situation.

Increasing and underestimated risks as a result of maturing and investment strategy

Apart from the above fundamental pension considerations, the pension funds are grappling with the current problem of a growing risk exposure. Supplementary pension schemes have become riskier for three reasons. In the first place the volume of accrued rights is continuing to grow more rapidly than the contribution base. This means that an ever higher proportion of the earnings of pension funds stem from uncertain returns on investment. The volatility in those returns is therefore also becoming larger in relation to the contribution base and it is becoming increasingly difficult to compensate for this by making changes to the contribution level. The second source of risk concerns the fact that people have become used to the high level of aspiration that has been achieved without undue difficulty in recent years for what are essentially accidental historical reasons. Finally, the nature of the investments is a source of risk. In order to obtain the return required for indexed pension payments without any increase in contributions, riskier investment will be required, with a consequent increase in the variability of the return.

Buffers provide risk reduction

Many pension schemes have built up capital buffers as a result of wage restraint and the high returns that have been achieved recently. There is no clear-cut owner for these buffers. In order to increase the sustainability of pension schemes in bad times it is better to aim at the maintenance of these buffers than to consume them in the form of repayments or the assignment of extra pension rights. The buffers constitute a transfer to future generations. By maintaining a buffer the risk/return profile changes substantially, from which the present generation also benefits. The value of pension buffers therefore exceeds the direct cash consumption value. It would certainly not be advisable to utilise the capital buffers for a painless conversion of the early retirement (VUT) scheme into a flexible pension scheme because thus:

- 1 these buffers might be used for consumption purposes; and
- 2 the labour force participation by the elderly, that is required for sustainability, might be obstructed.

Nevertheless there is also evidence that there remains a real risk of underfunding in relation to the aspiration level of indexed pensions even if the buffers are maintained and the risks minimised. In economically unfavourable situations the contribution instrument is no longer sufficiently powerful for adjustment purposes because the contribution might be rising above 25 per cent. It is not therefore realistic to assume that all the risks can be channelled into the contribution rate. The financing is, however, sufficiently solid to guarantee nominal final-pay pensions.

Incorporating the rights of active members into the risk base

Nominal pension rights do not amount to much at a time of high inflation. The risk of slipping to such a lower limit declines, however, if the risk is passed on not just to the rights of 'sleepers' and the retired but if the active members are also prepared to bear some risk for the indexation of their accrued pension rights. This does not imply a lower level of aspiration but simply a greater willingness to bear risks. On the other hand the ability to bear risk is greater. Flexible pension arrangements for example provide individuals with a powerful instrument to compensate for disappointing pension results (i.e. that fall short of the aspiration level) by means of later exit (i.e. later than the aspiration level). Furthermore the risk base of the total accrued rights (including active members) in relation to the accrued rights of sleepers and the retired is so broad that there is only a limited risk that this base will need to be tapped in depth.

In final-pay schemes the accrued rights of active members are unconditional. Because the benefit is determined by the final pay all the risk rests with the pension fund or the sponsor. In the case of average-pay schemes, however, it is possible to transfer risks to the active members by means of rights indexation linked to the realised return. In relation to the current arrangements such a pension scheme marks a shift towards defined contributions. This does not imply that the level of aspiration of pension schemes would need to be lower than at present. On average the contributions for the present level of aspiration could remain at an acceptable level. It does however imply that active members are more heavily involved in the risk base, so that not all the risks need to be passed on to the retired. The pension rights may turn out lower than planned, but also higher.

The solidarity between cohorts in such a scheme generates a substantial risk reduction in relation to individual saving. The cohorts that run into economic misfortune are supported by those that enjoy favourable economic circumstances. But there are limits to the solidarity: if things are really bad, the cohorts must be prepared to accept a loss. Asset-liability management studies can help ensure that rules of the game are formulated for the solidarity between generations: rules of the game which, on the one hand, promote efficiency and, on the other, bring about a fair distribution of the risks.

5.3 CARING FOR YOUNG PEOPLE

Although the number of children per cohort is falling, it cannot be deduced from this that the total transfers to young people are also declining, as there has been no decline over time in the care devoted to children.

As they become adults in a social sense, young people will need to commit themselves fully. Children must be cared for while both parents will also be working on their careers, which – given the brief duration of the working period nowadays – means working hard, particularly if they wish to withdraw from paid employment at an early point. It is women, in particular, who care for children. This means that the changes in the course of life of women, which are more radical than those of men, will have consequences in this area. The stage of the life-cycle in which children are cared for now coincides with the employment phase. What this means is that there is a double burden, at least in the case of paid employment. The price for preventing this burden is a drop in family income. The latter is again a problem in that individuals in the second life stage have a major responsibility for providing the financial base for collective transfers, including those to the older element of the population.

The analysis has revealed that a fall in income occurs in people's lives once they form a family. This is a life stage in which there is a heavy load, especially for women. This could lead to a twin-track policy:

- a an attempt to guarantee the household income that is devoted to transfers to young people by a further increase in the labour force participation rate of women;
- b strengthening the basis for these transfers by means of taxation and social security.
- As the analysis reveals, there is something to be said for both these kinds of mea-

sures, although there is some uncertainty about the effect of the former. Here the problem centres perhaps around the mutual coordination of income, education and labour market policy. If so desired, the integration of the various kinds of measures could be achieved in the form of a family policy.

In a wider perspective, in which it is not assumed that the trends now being observed in the life cycles of the younger cohorts will persist, the aim is to achieve a greater distribution of paid employment, care commitments, leisure time and lifelong education. This could mean that young people completed their formal education more quickly, that people had children at a younger age (with not just women but also men combining employment and care), that education would persist throughout life and that people would remain active in the labour market beyond the currently declining retirement age.

5.4 CARE OF THE ELDERLY

In comparison with the past there has been a marked increase in the care of the elderly and the forecasts assume a further growth. It is important to establish that this growth should not be viewed as a substitute for the disappearance of informal care. The growth has its own dynamic and is affected by demographic trends, the rising living standards, growth in technological possibilities and professionalisation. What is now understood by care of the elderly is a wide range of care of a medical nature for those aged 55 and over and cannot be compared with the earlier care of the elderly, which consisted primarily of the provision of residential arrangements for poor elderly people. Nowadays care of the elderly is heavily medicalised. Conversely health care has increasingly evolved into care of the elderly. Although the age at which people develop a requirement for care will rise in the future, a healthier old age may nevertheless be coupled with a greater demand for care.

The sustainability of the system of care transfers threatens to become a problem for the division of the tax burden and the tax base between the various age groups. This problem may be resolved by distributing care and care obligations in a sensible manner over the course of life. On the one hand it is a matter of controlling the burden of care for young and old. On the other the concern is to create a pattern of life providing the largest possible support base for such care. Government policy can play an important part in this regard.

Choices in the necessary medical care and financing of care

In order to maintain the accessibility of health care for all in all age groups in the longer term, it is inevitable that limits be set on the collective responsibility. It will be necessary to delimit the package of medical care for which society is responsible.

A collective responsibility may be recognised for a basic level of cure and care. The size of their basic level is determined by what is regarded at any one point as a socially acceptable minimal level. Here it is possible to draw on the lines set out by the WRR in its report *Public Health Care* (1997). Entitlement to cure and care must be linked to certain politically laid down conditions. Entitlements cannot always be guaranteed to a maximum for all those insured. In the Council's view choices will therefore have to be made in the future with respect to medical care and greater reliance will need to be placed on the individual responsibility of both the younger and the older population for the insurance of non-medical care. The increasing level of prosperity may mean that additional care over and above that publicly guaranteed may be regarded desirable either individually or at collective private level. In this regard it is important that the basic public provision and private supplementation are harmonised as effectively as possible in a customised system. Under this system encouragement would need to be provided for people to take out insurance in good time (i.e. as young age) for the necessary care at a later age – or in other words for the privatisation of an element of care.

In this regard this report has examined the use of cost effectiveness as a measure for making choices in medical care, on the grounds that cost effectiveness is likely to become an increasingly important consideration in the provision of that care. It was noted that when putting together a necessary package of medial care, appraisal in terms of cost effectiveness need not be unfair for population groups of different age.

The recommendation in the WRR report on *Public Health Care* concerning the communal insurance of a basic package of medical care based around the risk solidarity between young and old proves to be consistent with the analysis concerning the sustainability of the system.

Working in care

With respect to the supply of labour in the care sector it is recommended that sufficient people continue to be employed in the caring and nursing professions. This will require investment. Increasingly, the elderly will need to care for the oldest. In addition it is certainly necessary to interest young people in working in the field of care.

In the light of the above, measures will be required in the following fields:

- more flexible contracts of employment will be required, so that the work can be more effectively combined with caring tasks at home;
- much better career prospects and development possibilities will need to be created at institutional level for nursing and caring staff;
- staff employability will need to be related to a much greater extent to age and ability to cope with the physical, emotional and cognitive aspects of the work.
 Finally, health care for the elderly must also provide a place for healthy old people taking responsibility for the very old. In this way the health care system can help contribute towards a productive third life stage.

5.5 EDUCATION

Human capital is transferred between the generations by means of education for the young. The decisive consideration for the government's role in education is the external effects in the longer term of investments in human capital, which manifest themselves in particular at societal level.

More and more young people are proceeding to higher level education. Technological developments and the growing prosperity are raising the question whether and to what extent education is a governmental responsibility and whether it needs to be focused on young people in particular. As a result of the rising participation rates, there has been an increase in the duration of education in the youthful stage of people's lives, in turn resulting in an increase in transfers (despite a relative decline in the size of the youngest cohorts). Whereas previously it was normal for people to find a job after completing primary schooling and so to contribute to the household income of their parents and to save for their own family, people now undergo a lengthy period of education first. This means that parents have an extended responsibility for their children. In the government's efforts to strengthen the position of youth education (at both the compulsory education and postcompulsory education stage) education policy has to a large extent fitted in with these developments. In addition government policy is now clearly giving a place to private financing arrangements, especially at the post-compulsory education stage, for young people.

The fact that young people are consistently extending their period of education and so do not enter the labour market until a later age while at the same time older people are retiring at an earlier age means that the economic base for both young and old is being reduced in an ageing society. In addition, a further extension of education at the start of people's lives will not result in a corresponding increase in prosperity. It would not appear advisable for government policy to neglect these developments, partly because these are reducing the active period of employment.

A sensible distribution of education over people's lives would therefore devote greater attention to education at higher ages and seek to achieve a more effective spread of education and work (and paid employment and care). A generally high level of education would however be maintained. For this it will be necessary to set up a broad education policy, differentiated by categories, life-cycle stages and types of policy intervention. In many cases it will be possible for a conditioning or supplementary government role to suffice.

The financing problems of the future are incorrectly often related only to facilities for older people. The transfers to younger generations can, however, also be at risk. For these reasons a decision could be taken in favour of collective responsibility for primary and basic education, while limiting the extension of education in the youth phase as far as possible.

5.6 TECHNOLOGY IN A GENERATIONAL PERSPECTIVE

Despite years of analysis, technology and technological progress remain little understood sources of economic growth. Drawing conclusions about the economic fruits of technological progress is therefore a hazardous undertaking.

Subject to that qualification we may nevertheless make the following points. In the first place technological progress generates substantial external effects, varying in time and place. Secondly the social return on investments in R&D is many times greater than the private return on account of the external effects just noted. Thirdly, technological progress has enabled each generation in the 20th century to lead a longer and better life than preceding generations.

In an intergenerational perspective the most important conclusion may be that the value of technological progress is at its most evident when one examines the interaction between longevity and technological capital. Small changes in knowledge at the end of the 19th century and in the early 20th century made an enormous contribution towards reducing infant mortality. In recent decades, the main improvements made in extending people's life-spans have been made towards the end rather than the beginning of life. These kinds of external effects of knowledge creation and application are seldom noted or taken into account, even though they play a real part in explaining certain paradoxical developments in the relationships between the generations. Seen in this light ageing is not an exogenous but an endogenous phenomenon in which technology capital plays a major part.

A generationally-aware knowledge policy could concentrate on people's differing ability to adapt to new technological developments and has both an intragenerational and an intergenerational dimension, in that the collective nature of knowledge makes knowledge policy important for both present and future generations.

New knowledge can mean that the technology capital of the youngest generation is enlarged and that of older generations reduced. Much depends on the nature of the technological change: does the innovation strengthen professional expertise or does it in fact reduce the importance of such knowledge? In the event of a basic innovation that strengthens professional expertise, a generationally-aware knowledge policy can concentrate on increasing the learning or adoption capacity of employees in order to reduce the number of losers from technological revolutions. In many cases this will imply that employees will need to keep learning throughout their lives in order to remain technology shockproof and reach the promised land of retirement.

The intergenerational dimension of knowledge policy is reflected especially in the distribution of resources over the generations. In a society that is increasingly 'greying' and in which ever more people fall into the inactive category, technological investments can come under pressure in both the private and public sector. Within the private sector this may be because – as a result of the process of ageing –

voluntary and contractual savings come under pressure thus resulting in a decline in the aggregate supply of capital. Technology investments will also feel the effect of ageing within the public sector because the pressure to increase spending on material transfers (care and social security) will increase while the pressure to increase government spending of a capital nature will decline. Providing resistance to the pressure of 'grey' pressure groups on the allocation of investment funds may be the best that one can do on behalf of future generations.

Investment in human capital that is strongly related to the ability to absorb new technologies is not just necessary for maintaining and increasing living standards but may also bring extra benefits with a view to the relative scarcity of labour in the coming decades as a result of ageing. Consolidating and improving the contract between the generations by means of population growth – especially growth of the labour force – is a thing of the past. The only tenable strategy for guaranteeing the contract between the generations at all times is to take the quality rather than the quantity of people as the starting point for government policy.

Investments in knowledge and technology are highly important for the link between the generations (both those alive now and future generations) because they increase the economic base and hence the room for financial transfers. Prosperity can to a large extent be attributed to technological progress. A generationally-aware policy means continuing to invest in education for the young generations and more generally in human capital, despite the pressure of ageing. Although no one knows whether the future generations will be grateful for new inventions produced by the present generations it is nevertheless our responsibility to continue with such innovation.

In earlier times it used to be the custom to plant a tree upon the birth of a child, so that the newly-born would be able to pick the fruits many decades later. Apart from this ancient tradition present society has created other possibilities for itself for consolidating the link between the generations.

5.7 TRANSFERS OF ENVIRONMENTAL CAPITAL

The principles of a generationally-aware policy also apply to protecting the interests of future generations, although here a number of specific problems arise. The care for future generations naturally calls for a long-term vision, but the interests and preferences of those generations cannot be known. An attempt may be made to identify with the life situation of future generations but, according to the Council's analysis, this does not make it any easier to arrive at clearly defined political decisions. On the basis of the preferences of the present generations a combination of willingness to bear risks and responsibility will need to be found, in the same way as was done for the other generationally-aware policy options.

It is not possible to determine the scale of environmental capital to be transferred to future generations in a clear-cut way. There are various reasons for this. In the

first place views differ as to what should be understood by environmental capital, while the visions on this subject are also changing. Efforts have been made in a number of scientific fields to develop more clear-cut definitions of the concept, but ultimately one is driven to the conclusion that the concept of environmental capital has a clear normative element. That is not however the final word, as each opinion is just that – an opinion – and not every opinion about the environmental heritage to be passed on will be equally relevant. By 'translating' the various world images from cultural theory into economic welfare theory, however, it is possible to obtain some insight into the limits within which the concept of environmental capital broadly operates.

This does not however make it possible to define the correct scale of any intergenerational transfer of environmental capital. This is related in particular to the impossibility of indicating which transfer is desirable from the perspective of future generations. Here too, however, it is possible with the aid of the various culture orientations to indicate more precisely what various world images understand by a 'right legacy'. The various preferences may be translated into an equal number of policy perspectives.

In doing so two kinds of conclusions arise. In the first place policy perspectives based solely on the preferences of either the current or the future generation are unable to contribute towards a generationally-aware policy: by definition, such a policy entails a trade-off in order to arrive at a collectively shared responsibility towards future generations. Policy perspectives that do not provide room for such a trade-off do not therefore form part of this and may even put the intended consensus at risk. Where these attitudes become dominant, a government would therefore be advised to devote explicit attention to the trade-off issue. Only if the debate is conducted in full is a lasting generationally-aware environmental policy conceivable.

Secondly, two fundamentally different directions are possible with respect to the other two policy perspectives that do leave room for such a trade-off and which are therefore consistent with a generationally-aware policy. On the one hand there is a strategy of privatisation, pricing and striking an acceptable balance between investment now and benefits later and, on the other, a strategy of translating current preferences in the form of self-restraint, by means of which society arms itself against its own temptations. Elements of both strategies are to be found in present-day environmental policy. The trade-off between the costs and benefits of present and future generations plays a certain role in all decisions being taken now, whether these concern investment in infrastructure or accepting a certain level of national debt.

If one considers that environmental policy today still falls short, both paths are in principle open in order to intensify policy in a manner which, according to currently perceived views, does more justice to future generations. If in doing so account is taken of what the public today regard as the most urgent problems and shortcomings, this logically suggests a further elaboration in the sense of already existing and new forms of self-restraint.

If the present generations do wish to respect the environmental interests and the (unknowable) environmental preferences of future generations as far as possible, they can do so by seeking types of policies that keep the risks within bounds. Decisions with irreversible consequences need to be taken with great care and caution. In addition a policy space can be created for certain forms of self-restraint (in the way that Odysseus had himself tied to the mast in order to resist the lure of the Sirens), so as to leave wider options for future generations. A further elaboration of existing and new forms of self-restraint deserves consideration in this light.

NOTES

1 A 'sleeper' is a non-contributing, non-pensioned participant, e.g. someone who left a pension fund after he changed jobs.

LITERATURE

Aaron, H. (1966) 'The social insurance paradox', *Canadian Journal of Economics and Political* Science, 32, 3: 371-374.

Abromovitz, M. (1956) 'Resource and Output Trends in the United States since 1870', American Economic Review, Papers and Proceedings, 46: 5-23.

Albers, R. and P. Groote (1996) 'The Empirics of Growth', De Economist, 144: 429-444.

- Ark, B. van en H. de Jong (1996) 'Accounting for Economic Growth in the Netherlands since 1913', Economic and Social History in the Netherlands, 7: 199-242.
- Auerbach, A.J., J. Gokhale and L.J. Kotlikoff (1987) 'Generational accounts: a meaningful alternative to deficit accounting', pp. 55-110 in L.H. Summers, *Tax policy and the economy*, Cambridge MA: NBER.
- Auerbach, A.J., J. Gokhale and L.J. Kotlikoff (1994) 'Generational accounts: a meaningful way to evaluate fiscal policy', *Journal of Economic Perspectives*, 8, 1: 73-94.
- Baily, M.N. and H. Gersbach (1995) 'Efficiency in Manufacturing and the Need for Global Competition', Brookings Papers in Economic Activity – Microeconomics, 4: 307-347.
- Banks, J., R. Disney and Z. Smith (1998) What can we learn about pension reform from Generational Accounts for the UK?, London: Institute for Fiscal Studies.

Barry, B. (1989) Theories of Justice, Oxford.

- Bartelsman, E., G. van Leeuwen and H. Nieuwenhuijsen (1996b) 'Advanced Manufacturing Technology and Firm Performance in the Netherlands', *Netherlands Official Statistics*, 11: 40-51.
- Bartelsman, E., G. van Leeuwen, H. Nieuwenhuijsen and K. Zeelenberg (1996a) 'R&D and Productivity growth: Evidence from Firm-Level Data for the Netherlands', *Netherlands Official Statistics*, 11: 52-69.

Bartelsman, E.J. and M. Doms (1999) 'Understanding Productivity: Lessons from Longitudinal Micro Datasets', *Journal of Economic Literature*, forthcoming.

- Baumol, W.J. (1967) 'Macro-economics of unbalanced growth: the anatomy of urban crisis', The American Economic Review, 3: 415-426.
- Becker, H.A. (ed.) (1992b) *Dynamics of Cohort and Generations Research*, Amsterdam: Thesis Publishers.
- Becker, H.A. and P.J.L. Hermkens (eds.) (1993) Solidarity of Generations. Demographic, economic and social change, Amsterdam: Thesis Publishers.
- Bloom, D.E. and J.G. Williamson (1998) 'Demographic Transitions and Economic Miracles in Emerging Asia', *World Bank Economic Review*, 12, 3: 419-455.
- Boll, S. (1996) Intergenerational redistribution through the public sector Methodology of generational accounting and its empirical application to Germany, Discussion paper 6/96, Deutsche Bundesbank.
- Boll, S., B. Raffelhüschen and J. Walliser (1994) 'Social security and intergenerational redistribution: a generational accounting perspective', *Public Choice*, 81: 79-100.
- Boon, M. (1996) 'Effects of Firm Performance and Technology on Wages: Evidence from Crosssectional Matched Worker-Firm Data', *Netherlands Official Statistics*, 11: 70-82.
- Bovenberg A.L. and B.J. Heijdra (1998) 'Environmental tax policy and intergenerational distribution', *Journal of Public Economics* 67: 1-24.
- Bovenberg, A.L. and A.S.M. van der Linden (1997) *Can we afford to grow old?*, CPB, Research Memorandum no. 134, The Hague.

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- Bovenberg, A.L. and H. ter Rele (1999) 'Generational accounts for the Netherlands: an update', CPB report 1999-3: 19-25.
- Breyer, F. (1989) 'On the intergenerational Pareto efficiency of pay-as-you-go financed pension systems', *Journal of Institutional and Theoretical Economics*, 145: 643-658.
- Broek, A. van den (1996) Politics and Generations, Tilburg: Tilburg University Press.
- Broer, D.P. (1999) Growth and Welfare Distribution in an Ageing Society: An Applied General Equilibrium Analysis for the Netherlands, OCFEB Research Memorandum, no. 9908, Rotterdam: OCFEB.
- Broer, D.P. and E.W.M.T. Westerhout (1996) 'Pension policies and lifetime uncertainty in an applied general equilibrium model', pp. 110-138 in D.P. Broer and J. Lassila (eds.) *Pension policies and public debt in dynamic CGE models*, Helsinki: Physica-Verlag.
- Broome, J. (1992) Counting the costs of global warming, Cambridge: White Horse Press.
- Bruyn-Hundt, M. (1996) The economics of unpaid work, Amsterdam: Thesis Publishers.
- Buiter, W.H. (1995) Generational Accounts, aggregate saving and intergenerational distribution, The National Bureau of Economic Research (NBER), Working paper no. 5087, Cambridge Mass.
- Bütler, M and G. Kirchsteiger (1999) *Aging Anxiety: Much Ado about Nothing*?, CentER Discussion Paper, no. 9937, Tilburg.
- Butter, F.A.G. den and F. Wollmer (1992) *Endogenizing Technical Progress in the Netherlands*, BTE Studie no. 22, The Hague.
- Caballero, R.J. and A.B. Jaffe (1993) 'How High are the Giants' Shoulders? An Empirical Assessment of Knowledge Spillovers and Creative Destruction in a Model of Economic Growth', NBER Macroeconomics Annual 1993: 15-74.
- Canton, E.J.F., H.L.F. de Groot and R. Nahuis (1999) 'Vested Interests and Resistance to Technology Adoption', paper presented at EEA conference 1-4 September, Santiago de Compostela.
- Cardarelli, R., J. Sefton and L.J. Kotlikoff (1998) *Generational Accounting in the UK*, The National Institute for Economic and Social Research (NIESR).
- Caselli, F. (1999) 'Technological Revolutions', American Economic Review, 89: 78-102.
- Coe, D.T. and E. Helpman (1995) 'International R&D Spillovers', *European Economic Review*, 39: 859-887.
- Coleman, J.S. (1990) Foundations of Social Theory, Cambridge: The Belknap Press.
- Corcoran, M.E. (1979) 'Work experience, labor force withdrawals, and women's wages: Empirical results using the 1976 Panel of Income Dynamics', pp. 216-245 in C.B. Lloyd, E.S. Andrews, C.L. Gilroy (eds.) *Women in the labor market*, New York: Columbia University Press.
- Costanza, R., R. d' Arge and R.S. de Groot et al. (1997) 'The value of the world's ecosystem services and natural capital', *Nature*, 387: 253-260.
- Cox, D. (1984) 'Panel estimates of the effects of carreer interruptions on the earnings of women', *Economic Inquiry*, 22: 386-403.
- Cozzi, G. (1998) 'Culture as a bubble', Journal of Political Economy, 106: 376-394.
- Dalen, H.P. van (1996) 'Pitfalls in the economic analysis of aging', *Journal of Policy Modeling*, 17: 157-184.
- Dalen, H.P. van (1997) Social protection and aging populations in the European Union, The Hague: NIDI.
- Dalen, H.P. van and H.A.A. Verbon (1999b) 'Work, Savings, and Social Security in a Life-Course Perspective', pp. 123-157 in L.J.G. van Wissen and P.A. Dykstra (eds.) *Population Issues: An Interdisciplinary Focus*, New York: Plenum Press.

- Daniels, N. (1988) Am I my parents' keeper? An essay on justice between the young and the old, New York/Oxford: Oxford University Press.
- Dasgupta, P. (1998) 'Population, consumption and resources: ethical issues', *Ecological Economics*, 24: 139-152.
- Dekkers, G.J.M., J.H.M. Nelissen and H.A.A. Verbon (1995) 'Intergenerational equity and pension reform: The case of The Netherlands', *Public Finance*, 50, 2: 224-245.
- Denison, E.F. (1962) The Sources of Economic Growth in the United States and the Alternatives Before Us, Washington DC: Committee for Economic Development.
- Denison, E.F. (1967) Why Growth Rates Differ Postwar Experience in Nine Western Countries, Washington DC: Brookings Institution.
- de-Shalit, A. (1995) Why posterity matters: environmental policies and future generations, London: Routledge.
- Douglas, M. and A. Wildavsky (1982) *Risk and culture*, Berkely & Los Angeles: University of California Press.
- Dudley, L. (1999) 'Communications and Economic Growth', *European Economic Review*, 43: 595-619.
- Eisenstadt, S.N. (1971) From Generation to Generation, New York: The Free Press.
- Elder, G.H. (1974) Children of the Great Depression, Chicago: University of Chicago Press.
- Entorf, H. and F. Kramarz (1997) 'Does Unmeasured Ability Explain the Higher Wages of New Technology Workers?', *European Economic Review*, 41: 1489-1509.
- European Commision (1999) What do Europeans think about the environment? The main results of the survey carried oput in the context of Eurobaromater 51.1, Office for Official Publications of the European Communities, Luxembourg.
- Fase, M.M.G. (1975) 'Human capital, distribution of labour income and scope for future consumption', Amsterdam/Rotterdam-Bank N.V., *Economic Quarterly Review*, 41, June: 5-10.
- Finans- og Tolldepartementet (1998) Fakta og Analyser, Langtidsprogrammet 1998-2001.
- Finch, J. (1994) Family Obligations and Social Change, Cambridge: Polity Press.
- Fogel, R.W. and D.L. Costa (1997) 'A Theory of Technophysio Evolution, with Some Implications for Forecasting Population, Health Care Costs and Pension Costs', *Demography*, 34: 49-66.
- Fukuyama, F. (1995) *Trust, The Social Virtues and the Creation of Prosperity*, New York: The Free Press.
- Garrett, D.M. (1995) 'The Effects of Differential Mortality Rates on the Progressivity of Social Security', *Economic Inquiry*: 457-475.
- Gerlagh, R. (1998) The efficient and sustainable use of environmental resource system, Amsterdam: Thela Thesis.
- Gordon, R.J. (1999) Has the 'New Economy' Rendered the Productivity Slowdown Obsolete?, working paper, revised version of 14 June 1999, Northwestern University.
- Greenwood, J, and B. Jovanovic (1999) 'The IT Revolution and the Stock Market', American Economic Review, Papers and Proceedings, 89: 116-122.
- Griliches, Z. (1957) 'Hybrid Corn: An Exploration in the Economics of Technological Change', Econometrica, 25: 501-522.
- Griliches, Z. (1992) 'The Search for R&D Spillovers', Scandinavian Journal of Economics, 94: S29-S47.
- Groot, L.F.M., J.J. Schippers and J.J. Siegers (1988) 'The effect of interruptions and part-time work on women's wage rate: a test of the variable-intensity model', *De Economist*, 136: 220-238.

60

Groot, W. (1998) An empirical analysis of the use of health care services, Maastricht University.

- Grossman, G.M. and E. Helpman (1998) 'Intergenerational redistribution with short-lived governments', *The Economic Journal*, 108: 1299-1329.
- Group of Ten (1998) The macroeconomic and financial implications of ageing populations.
- Gunning-Schepers, L.J., G.J. Kronjee and R.A. Spasoff (eds.) *Fundamental questions about the future of health care,* WRR Preliminary and Background Studies no.V95, The Hague: Sdu Uitgevers.

Hagemann, R.P. and C. John (1997) 'Fiscal reform in Sweden: what generational accounting tells us', *Contemporary Economic Policy*, 15, juli: 1-12.

- Hamnett, C. (1996) 'Housing inheritance in Britain: its scale, seize and future', in A. Walker, *The New Generational Contract*, London: UCL Press.
- Hansen, G.D., and E.C. Prescott (1998) *Malthus to Solow*, NBER Working Paper no. 6858, Cambridge MA.
- Haveman, R. (1994) 'Should generational accounts replace public budgets and deficits?', *Journal of Economic Perspectives*, 8, 1: 95-111.
- Hebbink, G.E. (1997a) Generational accounting with feedback effects on productivity growth: an application to the public sector of the Netherlands, De Nederlandsche Bank, Research Memorandum WO&E, no 506/9721, Amsterdam.
- Heijden, E. van der (1996) Altruism, fairness and public pensions: An investigation of survey and experimental data, CentER Dissertatie 15, Katholieke Brabant University, Tilburg.
- Helpman, E. and M. Trajtenberg (1994) 'A Time to Sow and a Time to Reap: Growth Based on General Purpose Technologies', NBER Working Paper, no. 4854, Cambridge, MA.
- Helpman, E. and M. Trajtenberg (1996) 'Diffusion of General Purpose Technologies', NBER Working Paper, no. 5773, Cambridge MA.
- Hollis, M. (1998) Trust within Reason, Cambridge: Cambridge University Press.
- Hope, C., J. Parker and S. Peake (1992) 'A pilot environmental index for the UK in the 1980's', Energy Policy, 20: 335-343
- Imhoff, E. van (1989) 'Optimal Investment in Human Capital Under Conditions of Nonstable Population', *Journal of Human Resources*, 24: 414-432.
- Inglehart, R. (1977) The Silent Revolution, Princeton: Princeton University Press.
- Jacobs, B., R. Nahuis and P.J.G. Tang (1999) Sectoral productivity growth and R&D spillovers in the Netherlands, Research Memorandum no. 149, The Hague: CPB.
- Jagannathan, R. and R. Kocherlakota (1996) 'Why should older people invest less in stocks than younger people?', Federal reserve bank of Minneapolis, *Quarterly Review*, summer: 11-23.
- Jones, C.I. and J.C. Williams (1998) 'Measuring the Social Return to R&D', *Quarterly Journal of Economics*, 113: 1119-1135.
- Jorgenson, D.W. and K.J. Stroh (1999) 'Information Technology and Growth', American Economic Review, Papers and Proceedings, 89: 109-115.
- Jovanovic, B. (1996) 'Learning and Growth', in D. Kreps and K. Wallis (eds.) Advances in Economics, Cambridge: Cambridge University Press. Save
- Kazemier, B. and J. Exel (1992) *The allocation of time in the Netherlands in the context of the SNA; a module,* Central Bureau of Statistics, The Hague.
- Klaassen, G.A.J. and J.B. Opschoor (1991) 'Economics of sustainability or the sustainability of economics: different paradigms', *Ecological Economics*, 4: 93-115.
- Komter, A. and W. Vollebergh (1998) 'Intergenerational Solidarity, family ties under strain?', Sociale Wetenschappen, 41, 3: 25-38.

- Kotlikoff, L.J. (1992) Generational Accounting. Knowing who pays, and when, for what we spend, New York: The Free Press.
- Kotlikoff, L.J. (1998) 'Privatizing U.S. Social Security: some possible effects on intergenerational equity and the economy', *Review*, 80, 2: 31-37.
- Kotlikoff, L.J. and W. Leibfritz (1998) *An international comparison of generational accounts*, The National Bureau of Economic Research (NBER), Working Paper 6447.
- Kuné, J.B. (1992) 'Population aging and optimal financing of pension programs', paper for the 48th Congress (Seoul) of the International Institute of Public Finance.
- Kuné, J.B. (1996) The hidden liabilities. meaning and consequences, Heerlen: Stichting pensioenfonds ABP.
- Laslett, P. (1972) 'The Conversation between the Generations', pp. 36-57 in P. Laslett and J. Fishkin (eds.) *Philosophy, Politics and Society,* Fifth Series, Oxford: Blackwell.
- Laslett, P. (1992) 'Is there a Generational Contract?', in P. Laslett and J. Fishkin (eds.) *Justice between Age groups and Generations*, New Haven: Yale University Press.
- Leibfritz, W. (1996) 'Generational accounting: an international comparison', *Intereconomics*, 31, 2: 55-61.
- Levin, S.G. and P.E. Stephan (1999) 'Are the Foreign Born a Source of Strength for U.S. Science?', Science, 285: 1213-1214.
- MacFarlane, A. (1978) The Origins of English Individualism: the family, property and and social transition, Oxford: Blackwell.
- Maddison, A. (1987) 'Growth and Slowdown in Advanced Capitalist Economies: Techniques of Quantitative Assessment', *Journal of Economic Literature*, 25: 649-698.
- Maddison, A. (1995) Monitoring the World Economy 1820-1992, Parijs: OECD.
- Margolis, R.M. and D.M. Kammen (1999) 'Underinvestment: The Energy Technology and R&D Policy Challenge', *Science*, 285: 690-692.
- 'Measuring Intangible Assets A Price on the Priceless', The Economist, 12 June 1999: 72-74.
- Meijdam, A.C. and H.A.A. Verbon (1997) 'Aging and public pensions in an overlapping-generations model', *Oxford Economic Papers*, 49: 29-42.
- Miles, D. (1999) 'Modelling the impact of demographic change upon the economy', *The Economic Journal*, 109: 1-36.
- Mincer, J. and H. Ofek (1982) 'Interrupted work careers: Depreciation and restoration of human capital', *Journal of Human Resources*, 17, winter: 3-24.
- Mincer, J. and S. Polachek (1974) 'Family investments in human capital: Earnings of women', Journal of Political Economy, 82: S76-S110.
- Mokyr, J. (1990) The Lever of Riches Technological Creativity and Economic Progress, Oxford: Oxford University Press.
- Nelissen, J.H.M. (1993) The redistributive impact of social security schemes on lifetime income, dissertation, Tilburg.
- Nelissen, J.H.M. (1994) Towards a payable pension system. Costs and redistributive impact of the current Dutch system and three alternatives, The Hague: VUGA.
- Nelissen, J.H.M. (1995) 'Lifetime income redistribution by the old-age state pension in The Netherlands', *Journal of Public Economics*, 58: 429-451.
- Nelson, R.R. and P.M. Romer (1996) 'Science, Economic Growth and Public Policy', *Challenge*: 9-21.
- Netherlands Bureau for Economic Policy Analysis (1997c) Challenging neighbours: rethinking German and Dutch economic institutions, The Hague: Sdu Uitgevers.

- Noelle-Neumann, E. and E. Piel (eds.) (1983) Eine Generation später, Munich: Saure.
- Nordhaus, W.D. (1994) Managing the global commons, Cambridge MA: MIT Press.
- Norton, B. G. (1995) 'Evaluating ecosystem states: Two competing paradigms', *Ecological Economics*, 14: 113-127.
- Passmore, J. (1974) Men's Responsibility for nature, London: Duckworth Press.
- 'Pension fund investment', Financial Times, 21 May 1999, supplement.
- Phillipson, C. (1996) 'Intergenerational Conflict and the Welfare State: American and British Perspectives', in A.Walker (ed.) *The New Generational Contract*, London: UCL Press.
- Pommée, M. (1998) National Accounts. Measurement and valuation of gas and oil reserves in The Netherlands, Voorburg/Heerlen: CBS.
- Pommée, M. and W. Baris (1996) Balance sheet valuation: produced intangible assets and nonproduced assets, CBS Occasional paper NA-081, Voorburg.
- Poterba, J.B. (1998) 'Demographic change, intergenerational linkages and public education', *The American Economic Review*, 88, 2: 315-320.
- Putnam, R.D. (1993) Making Democracy Work, Priceton: Princeton University Press.
- Quereshi, H. (1996) 'Obligations and support within families', in A. Walker (ed.) *The New Generational Contract*, London: UCL Press.
- Quereshi, H. and A. Walker (1989) *The Caring Relationships: elderly people and their families*, New York: Temple University Press.
- Rabl, A. (1996) 'Discounting of long-term costs: what would future generations prefer us to do?', *Ecological Economics*, 17: 137-145.
- Ramsey F.P. (1928) 'A mathematical theory of saving', Economic Journal, December: 543-59.
- Rawls, J. (1971) A Theory of Justice, Cambridge: The Belknap Press.
- Rele, H. ter (1997) *Generational accounts for the Dutch public sector*, Research Memorandum no. 135, The Hague: CPB.
- Rogers, E.M. and F.F. Shoemaker (1971) *Communication of Innovations. A Cross-cultural Approach*, New York: Free Press.
- Romer, P.M. (1986) 'Increasing Returns and Long-Run Growth', *Journal of Political Economy*, 94: 1102-1037.
- Rossi, A. S. and P.H. Rossi (1990) *Of Human Bonding, Parent-Child Relations Across the Life Course*, New York: Aldine de Gruyter.
- Royal Norwegian Ministry of Finance (1997) *Report no 4 to the Storting (1996-97)*. *The Long-term Programme* 1998-2001, Oslo.
- Samuelson, P.A. (1958) 'An Exact Consumption-Loan Model of Interest with or without the Social Contrivance of Money', *Journal of Political Economy*, LXVI: 467-482.
- Schelsky, H. (1957) Die Skeptische Generation, eine Soziologie der Deutschen Jugend, Düsseldorf.
- Schwartz, M. and M. Thompson (1990) *Divided we stand. Redefining politics, technology and social choice,* New York: Harvester Wheatsheaf.
- Sen, A. (1997) 'Editorial', Human Capital and Human Capability, World Development, 25, 12: 1959-1961
- Sen, A.K. (1998) 'Mortality as an Indicator of Economic Success and Failure', Economic Journal, 108: 1-25.
- Soete, L.L.G. and B.J. ter Weel (1999) 'Innovation, Knowledge Creation and Technology Policy: The Case of the Netherlands', *De Economist*, 147: 293-310.
- Solow, R.M. (1956) 'A Contribution to the Theory of Economic Growth', Quarterly Journal of Economics, 70: 67-94.

Stephan, P.E. and S.G. Levin (1992) *Striking the Motherlode in Science*, Oxford: Oxford University Press.

Stiglitz, J.E. (1999) 'Public Policy for a Knowledge Economy', speech gegeven op CEPR conferentie, Washington: Worldbank.

Swift, D.F. (1969) The Sociology of Education, London: Routledge & Kegan Paul.

Thomson, D. (1989) 'The Welfare State and Generation Conflict: Winners and Losers', in P. Johnson, C. Conrad and D. Thomson (eds.) *Workers versus Pensioners: Intergenerational Justice in an Aging World*, Manchester: Manchester University Press.

Thomson, D. (1992) 'Generations, Justice and the Future of Collective Action', in P.Laslett and J. S. Fishkin (eds.) *Justice between Age groups and Generations*, New Haven: Yale University Press.

Thomson, R. (1984) 'The Eco-technic Process and the Development of the Sewing Machine, pp. 243-269 in G. Saxonhouse and G. Wright (eds.) *Technique, Spirit and Form in the Making of Modern Economies*, Greenwich: JAI Press.

Timmerman, J.G. and P.J.M. van de Ven (1994) A social accounting matrix for The Netherlands, concepts and results, CBS Occasional paper NA-068 (I & II), Voorburg.

Valdés-Prieto, S. (eds.) 1997 The economics of pensions. Principles, policies, and international experience, Cambridge: Cambridge University Press.

Verbruggen, H. et al. (1999) 'Alternative calculations of sustainable national income according to Hueting', in E. van Ierland et al. (red) *International Symposium Valuation of Nature and Environment*, April 23, 1999, Amsterdam.

- Verspagen, B. (1999) 'The Role of Large Multinationals in the Dutch Technology Infrastructure: A Patent Citation Analysis', working paper, TU Eindhoven.
- Walker, A. (1993) Age and Attitudes, Brussels: Commission of European Communities.

Walker, A. (ed.)(1996) The New Generational Contract, London: UCL Press.

WCED (1987) Our common future, Oxford: Oxford University Press.

Weisbrot, B.A. (1961) 'Valuation of human capital', Journal of Political Economy, 69: 425-436.

World Bank (1994) Averting the Old Age Crisis, Oxford: Oxford University Press.

WRR (1987) Scope for Growth (Ruimte voor groei; kansen en bedreigingen voor de Nederlandse economie in de komende tien jaar), Summary of the 29th Report to the Government, The Hague.

WRR (1994) Sustained Risks. A Lasting Phenomenon (Duurzame risico's: een blijvend gegeven), Reports to the Government no.44, The Hague.

WRR (1995) *Higher Education in Stages (Hoger Onderwijs in fasen)*, Summary of the 47th Report to the Government, The Hague.

WRR (1997) Public Health Care. Priorities and a Sound Financial Basis for Health Care in the 21st Century (Volksgezondheidszorg), Summary of the 52nd Report to the Government, The Hague.

WRR (1998) Governments Losing Ground. An Exploration of Administrative Consequences of Information and Communication Technology (Staat zonder land), Summary of the 54th Report to the Government, The Hague GENERATIONALLY-AWARE POLICY

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REPORTS TO THE GOVERNMENT

First term of office (1972-1977)

- 1 Europese Unie (European Union), 1974.
- 2 Structuur van de Nederlandse economie (Structure of the Netherlands Economy), 1974.
- 3 Energiebeleid op langere termijn (Long-term Energy Policy), 1974. Reports 1 to 3 have been published in one volume.
- 4 Milieubeleid (Environmental Policy), 1974.
- 5 Bevolkingsprognoses (Population Forecasts), 1974.
- 6 De organisatie van het openbaar bestuur (The Organization of Public Administration), 1975.
- 7 Buitenlandse invloeden op Nederland: Internationale migratie (Foreign Influence on the Netherlands: International Migration), 1976.
- 8 Buitenlandse invloeden op Nederland: Beschikbaarheid van wetenschappelijke en technische kennis (Foreign Influcence on the Netherlands: Availability of Scientific and Technical Knowledge), 1976.
- 9 Commentaar op de Discussienota Sectorraden Wetenschapsbeleid (Comments on the discussion Paper on Sectoral Council of Science Policy), 1976.
- 10 Commentaar op de nota Contouren van een toekomstig onderwijsbestel (Comments on the White Paper on the Contours of the Future Education System), 1976.
- 11 Overzicht externe adviesorganen van de centrale overheid (Survey of External Advisory Bodies of the Central Government), 1976.
- 12 Externe adviesorganen van de centrale overheid, beschrijving, ontwikkelingen, aanbevelingen (External Advisory Bodies of the Central Government: Description, Developments, Recommendations), 1977.
- 13 'Maken wij er werk van?' Verkenningen omtrent de verhouding tussen actieven en niet-actieven ('Do we make Work our Business?' An Exploratory Study of the Relations between Economically Active and Inactive Persons), 1977.
- 14 Overzicht interne adviesorganen van de centrale overheid (Survey of Internal Advisory Bodies of the Central Government), 1977.
- 15 De komende vijfentwintig jaar, een toekomstverkenning voor Nederland (The Next Twenty-Five Years: a Survey of Future Developments in the Netherlands), 1977.
- 16 Over sociale ongelijkheid, een beleidsgerichte probleemverkenning (On Social Inequality: a Police-oriented Study), 1977.

Second term of office (1978-1982)

- 17 Etnische minderheden A. Rapport aan de Regering; B. Naar een algemeen etnisch minderhedenbeleid? (Ethnic minorities – A. Report to the Government; B. Towards on Overall Ethnic Minorities Policy?), 1979.
- 18 Plaats en toekomst van de Nederlandse industrie (Industry in the Netherlands: its Place and Future), 1980.
- 19 Beleidsgerichte toekomstverkenning: deel 1. Een poging tot uitlokking (A Policy-oriented Survey of the Future: Part 1. An Attempt to Challenge), 1980.
- 20 Democratie en geweld Probleemanalyse naar aanleiding van de gebeurtenissen in Amsterdam op 30 april 1980 (Democracy and Violence – an Analysis of Problems in Connection with the Events in Amsterdam on April 30, 1980), 1980.
- 21 Vernieuwing in het arbeidsbestel (Prospects for Reforming the Labour System), 1981.
- 22 Herwaardering van welzijnsbeleid (A Reappraisal of Welfare Policy), 1982.

- 23 Onder invloed van Duitsland. Een onderzoek naar gevoeligheid en kwetsbaarheid in de betrekkingen tussen Nederland en de Bondsrepubliek (The German Factor, A Survey of Sensitivity and Vulnerability in the Relationship between the Netherlands and the Federal Republic), 1982.
- 24 Samenhangend mediabeleid (A Coherent Media Policy), 1982.

Third term of office (1983-1987)

- 25 Beleidsgerichte toekomstverkenning: deel 2; Een verruiming van perspectief (A Policy-oriented Survey of the Future: Part 2: Towards a Broader Perspective), 1983.
- 26 Waarborgen voor zekerheid; een nieuw stelsel van sociale zekerheid in hoofdlijnen (Safeguarding Social Security), 1985.
- 27 Basisvorming in het onderwijs (Basic Education), 1986.
- 28 De onvoltooide Europese integratie (The Unfinished European Integration), 1986.
- 29 Ruimte voor groei (Scope for Growth), 1987.
- 30 Op maat van het midden- en kleinbedrijf (Tailoring Policy to the Needs of the Small and Medium-sized Business), 1987.
- 31 Cultuur zonder grenzen (Culture and Diplomacy), 1987.
- 32 De financiering van de Europese Gemeenschap (Financing the European Community), 1987.
- 33 Activerend arbeidsmarktbeleid (An Active Labour Market Policy), 1987.
- 34 Overheid en toekomstonderzoek (Government and Future Research), 1988.

Fourth term of office (1988-1992)

- 35 Rechtshandhaving (Law Enforcement), 1989.
- 36 Allochtonenbeleid (Immigrant Policy), 1989.
- 37 Van de stad en de rand (Institutions and Cities; the Dutch Experience), 1990.
- 38 Een werkend perspectief (Work in Perspective), 1990.
- 39 Technologie en overheid (Technology and Policy), 1991.
- 40 De onderwijsverzorging in de toekomst (Educational Support in the Future), 1991.
- 41 Milieubeleid; strategie, instrumenten en handhaafbaarheid, (Environmental Policy: Strategy, Instruments and Enforcement), 1992.
- 42 Grond voor keuzen; vier perspectieven voor de landelijke gebieden in de Europese Gemeenschap (Ground for Choices), 1992.
- 43 Ouderen voor Ouderen; demografische ontwikkelingen en beleid (Demographic Developments and Policy), 1993.

Fifth term of office (1993-1997)

- 44 Duurzame risico's: een blijvend gegeven (Sustained Risks: a Lasting Phenomenon), 1994.
- 45 Belang en beleid; naar een verantwoorde uitvoering van de werknemersverzekeringen (Interest and Policy; to a Responsible Implementation of Employee Insurances), 1994.
- 46 Besluiten over grote projecten (Decision-making on Complex Projects), 1994.
- 47 Hoger onderwijs in fasen (Higher Education in Stages), 1995.
- 48 Stabiliteit en veiligheid in Europa; het veranderende krachtenveld voor het buitenlands beleid (Stability and Security in Europe), 1995.
- 49 Orde in het binnenlands bestuur (On the Organisation of Public Administration), 1995.
- 50 Tweedeling in perspectief (Social Dichotomy in Perspective), 1996.

- 51 Van verdelen naar verdienen; afwegingen voor de sociale zekerheid in de 21e eeuw (From Sharing to Earning. Considerations for Social Security in the 21st Century), 1997.
- 52 Volksgezondheidszorg (Public Health Care. Priorities and a Sound Financial Basis for Health Care in the 21st Century), 1997.
- 53 Ruimtelijke-ontwikkelingspolitiek (Spatial Development Policy), 1998.
- 54 Staat zonder land. Een verkenning van bestuurlijke gevolgen van informatie- en communicatietechnologie (Governments losing Ground. An Exploration of Administrative Consequences of Information and Communication Technology), 1998.

Sixth term of office (1998-2002)

55 Generatiebewust beleid (Generationally-aware Policy), 1999.

Reports nos. 13, 15, 17, 18, 28, 31, 32, 42, 44 and 48 have been translated into English; English summaries are available of Reports nos. 16, 18, 19, 20, 25, 26, 27, 29, 30, 33, 34, 37, 38, 41, 47, 50, 51, 52, 53, 54 and 55; Report no. 23 has been translated into German. Of Report no. 42 a German and a Spanish Summary is available, as well as a full French translation.

PRELIMINARY AND BACKGROUND STUDIES

Below publications in the series Preliminary and Background Studies are listed from the fourth term of office onwards. A complete list of these studies is available on the wRR website (http://www.wrr.nl) or at the Council's Bureau (+31 70 3564625). Most studies are available in Dutch only; a number of studies have been published in English.

Fourth term of office (1988-1992)

- V63 Milieu en groei (Environmental Control and Growth) Verslag van een studiedag op 11februari 1988 (1988)
- V64 De maatschappelijke gevolgen van erfelijkheidsonderzoek (Social Consequences of Genetic Research) Verslag van een conferentie op 16-17 juni 1988 (1988)
- V65 H.F.L. Garretsen en H. Raat (1989) Gezondheid in de vier grote steden (Health in the Four Big Cities)
- V66 P. de Grauwe, A. Knoester, A. Kolodziejak, A. Muijzers, F. van der Ploeg, C.J. Rijnvos (1989) De Europese monetaire integratie vier visies (European Monetary Integration Four Visions)
- V67 Th. Roelandt, J. Veenman (1990) Allochtonen van school naar werk (Immigrants from school to work)
- V68 W.H. Leeuwenburgh, P. van den Eeden (1990) Onderwijs in de vier grote steden (Education in the four Big Cities)
- V69 M.W. de Jong, P.A. de Ruijter (red.) (1990) Logistiek, infrastructuur en de grote stad (Logistics, infrastructure and the Big Cities)
- V70 C.P.A. Bartels, E.J.J. Roos (1990) Sociaal-economische vernieuwing in grootstedelijke gebieden (Social economic innovation in the Big Cities regions)
- V71 W.J. Dercksen (ed.) (1990) The Future of Industrial Relations in Europe; Proceedings of a Conference in Honour of Prof. W. Albeda
- V72 Social-economische gezondheidsverschillen en beleid; (Socio-economic differences in health and policy-making) (1991)
- V73 F.J.P.M. Hoefnagel (1992) Cultuurpolitiek het mogen en moeten (Cultural Policy)
- V74 K.W.H. van Beek, B.M.S. van Praag (1992) Kiezen uit sollicitanten (Competition in Seaking Employment)
- V75 Jeugd in ontwikkeling (Youth in Development) (1992)
- V76 A.M.J. Kreukels and W.G.M. Salet (eds.) (1992) Debating Institutions and Cities; Proceedings of the Anglo-Dutch Conference on Urban Regeneration
- V77 H.R. van Gunsteren and P. den Hoed (eds.) (1992) Burgerschap in praktijken (Citizenship in practice)
- V78 F. Bletz, W. Dercksen and K. van Paridon (eds.) (1993) Shaping Factors for the Business Environment in the Netherlands after 1992
- V79 N.T. Bischoff, R.H.G. Jongman (1993), Development in Rural Areas in Europe; The Claim of Nature
- V80 Verslag en evaluatie 4e raadsperiode; 1988-1992 (Report on the Fourth Term of Office 1988-1992) (1993)
- V81 F.J.P.M. Hoefnagel (1993), Het Duitse Cultuurbeleid in Europa (The Dutch Culture Policy in Europe)

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Other publications

Voor de eenheid van beleid. Beschouwingen ter gelegenheid van vijftig jaar Ministerie van Algemene Zaken (Unity of policy, 1987

Eigentijds burgerschap (Contemporary citizenship); wRR-publicatie o.l.v. H.R. van Gunsteren, 1992 Mosterd bij de maaltijd; 20/25 jaar wRR, 1992. Appeared in English as Wise before the Event 1998

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