

Länderbericht

Renewing the Dutch economics syllabus for higher secondary education

Educational reforms from past to current debates

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Abstract

Dutch secondary school economics education was never at rest. It currently finds itself once more in an interesting phase of transition. New developments of behavioural economics have been incorporated into the exam subject matter while the deletion of Keynesian model making from the corpus triggers public debate. In this paper its one and a half century old history is described with a focus on the development of views on educational aims and the tools used to achieve these aims.

The nineteenth and twentieth century history of economics teaching in the Netherlands runs from the aim to prepare the pupils for offices in trade and industry (the social efficiency argument), entering into a phase in which the aim was to arm pupils with the necessary analytical skills as part of a *Bildung* orientation, to the eighties when the 'pupil-centredness' came to the fore. This latest development was a reaction to the very Dutch peculiarity that secondary school pupils had to swallow quite a big deal of mathematical analysis and economic modelling. In terms of educational aims this period can be characterised as a confusion of means and ends. A twenty-first century development places aims and tools back where they belong.

The newest program chooses as its starting point the trouble that occurs whenever agents enter the market: how to coordinate the various individual intentions when markets often fail? This is a breach with the old fashioned approach, which started with perfect competition and continues with cases of imperfection. However, this strong focus on how markets really work has come at the cost of a cohering macroeconomic corpus. Yet another commission is working on the development of the syllabus towards a macroeconomic tool of theoretical analysis: the New Keynesian Phillips Curve. This content is to enable pupils to also understand the current troubles of the economy with low interest rates, risk asymmetry and deflation.

This most recent change is a sizable program shift, both in economics content and in pedagogy. Two tools are in use: one that structures the subject matter around economic concepts and real life contexts, and one that promotes classroom experiments. Meanwhile, this so called Teulings program has a clear aim. It seeks to empower pupils in developing an 'economic outlook on social phenomena'. Notwithstanding the discontinuity in the history, this approach is consistent with the original aims of *Bildung* as well as social efficiency.

Introduction

Dutch economics education for secondary school students finds itself in a process of ambitious transitions. Since 2008 a pilot has run to implement a new program containing key concepts from behavioural economics. This pilot has ended in 2010 and the program is now in force for the two top educational diplomas providing access to the two Dutch institutions for higher education: higher professional formation¹ and university. Meanwhile, a committee has just prepared the insertion of further new economic corpus into the compulsory exam subject matter: the New Keynesian Phillips curve along with some tools of analysis of deflation as we see it develop in western economies and of the connected crisis of household, bank, and public balances.

As this content involves the latest of economic thought, secondary schools in the Netherlands seem to teach their pupils about the forefront of economic theory and its application. It is perhaps not an exaggeration to say that this fits into a tradition. Dutch secondary school economics was already somewhat deviant in its teaching an algebraic approach to economic theory while, for instance, even in American colleges mathematical analysis of the economy has always been absent, let alone at American 'highschools'. An example is the use of partial and total differential equations. Algebra in economics is typically studied by American graduate students only. Meanwhile this was part of the normal curriculum of Dutch schools (i.e. those that give access to university) in the seventies and eighties. So the latest changes induce a continuation of the Netherlands as somewhat of an oddity internationally. Moreover, anyone who reflects on the history of Dutch economics education and compares it with the rather steady state of, say, secondary school economics in Britain or Germany is struck by the willingness of Dutch teachers to absorb imposed shock therapies in education. Though on the one hand efforts to change the core curriculum often stranded in ideological dissent or in soft compromises changing rather little, on the other hand sizable reformations did often find their way.

This paper focuses on the latest program reform towards a behavioural economics perspective in the exam curriculum. We will consider the motivation, the difficulties, and the dilemmas of this reform, but we will do so in the light of its history. Of course, big political changes in educational development are supposed to serve a well defined end. This raises the question whether the objectives of the once established and the most recent reformations have

¹ They have been coined 'universities of applied sciences'. They compare to polytechnics or German *Fachhochschulen*.

been and, respectively, will be realised. So this paper aims to highlight what past and present changes mean and how they can be assessed. What were the aims? Have these aims in fact been targeted by teachers? Have they been successful or not? As the extent to which the objectives have been achieved in the past may be judged rather doubtful, special attention will be given to the tidings we expect in the coming years.

The structure of this report is classical. It embarks with a critical historical overview. Insofar as mere historical facts are concerned, the overview will largely be guided by a recent 'biographical' thesis² on one and a half century of economics education in Holland (1863-2012) by Gerrit Gorter. This book is valuable for its scope. Gorter takes it that, if anything, the social efficiency argument has guided the organization and the economic content of Dutch economics education to teenagers from the very beginning in the nineteenth century. That is, during its 'lifetime' secondary school economics in the Netherlands has had the intention to prepare young adults to function properly in a market oriented civil and democratic society. As this objective was never absent we may well ask whether it is achieved then, now, and in the future. But I do not want to narrate this history merely according to the abstract of Gorter's book. I chose a more critical orientation in the way I select and phrase these facts.

The second section is devoted to discussing the historical meaning of two of the latest changes on Dutch economics education, the concept-context orientation and the obligation to do classroom experiments. Both present a novelty for it in fact being a form of state didactics.

Then I explain the latest program change to which the history has been leading and the motivation for this change, in the third section. The economic corpus will be pictured just as the new syllabus prescribes it. It has been written on the basis of the program mainly designed by the former director of the Dutch 'Central Planning Bureau' (CPB), Coen Teulings; and how this corpus differs from that in the preceding period. The focus is again on the innovative character of the microeconomic content.

Section four provides an analysis of the problems concerning the training of teachers and didactical dilemmas. One important – and often overlooked – problem has to do with the role of a theoretical corpus at school compared to how it functions in an advanced academic context. A boiled down body of knowledge is easier to teach in a world everyone already habituated to it than the application of theoretical concepts in flux.

² The author personifies economics education in the subtitle: 'Biography of a school subject'.

As a reaction to one of these troubles the macroeconomic domains of the syllabus is already in the process of adjustment and, more significantly, extension. The fifth section, entitled macroeconomics revisited, deals with this story.

1 Background. A critical history of Dutch secondary school economics education

Before World War II

The great Dutch liberal prime minister of the nineteenth century Johan Rudolph Thorbecke (1798-1872) is known for his law on secondary education of 1863. He had been professor of political economy in Gent and Leiden. Due to this law a school type for higher middle education came into existence. This three year so-called 'higher civil school' (in Dutch: *Hogere Burgerschool*, HBS) came to function as the continued education after primary school in a way, as a successor of what was called the 'French School'. While the 'Latin School', the predecessor of the Gymnasium, educated children of the elite, the French School had been the alternative for what we may call the sub-elite, the children of the professional middle class. HBS had the same goal as the French School: to give middle class young men a broad basis with an eye to their participation in society; more specifically in trade and industry. The curriculum had to be sufficiently general but with a focus on sciences and modern languages. Its subsequent success enabled the HBS to survive its founder by nearly a century. The German educationist Paul Oßwald noted that with HBS, „[d]ie Niederlande haben einen großen Schritt vorwärts getan in der politischen Erziehung ihres Volkes, als ihr großer Minister Thorbecke 1863 den bürgerkundlichen Unterricht einführte“ (Oßwald 1911, quoted by Gorter 2013, 47)³.

Teachers were graduates from university – often with PhD degrees – but without the slightest didactical training. Although the idea was never to prepare these adolescents for university this is precisely what turned out to be the result. A five year HBS came to function as the

³ Gerrit Gorter (2013, 47) from P. Oßwald (1911): *Die staatsbürgerliche Erziehung in den Niederlanden*, Leipzig: Teubner. Volume 3 of the *Schriften der Vereinigung für staatsbürgerliche Bildung und Erziehung*.

main gateway for academic studies, be it always with the Gymnasiums alongside.⁴ The HBS did nonetheless not originally open up the road to all universities. It did give access to some specific institutions for higher education⁵ and to the study of medicine. Medical students with HBS preparation could become physicians but they could not write their doctoral thesis. This induced many to leave the country in order to acquire their PhD degree.

The history of Dutch economics education also sets off here, in 1863, because something like ‘political economy’ and administration were newly introduced subjects at HBS⁶. Its content was a mixture of law, business studies like book keeping, and a little bit of what we would now call economics (or *Volkswirtschaftslehre*)⁷. In essence, HBS was to build a skilled labour force and economic subjects could be seen as instrumental for this purpose. Gorter (2013, 43) calls this the social efficiency argument. Typically, while this set of administrative subjects did not figure prominently on the time table anyway⁸, proper economics was of even minor importance. Pleas to quit teaching this subject were not uncommon (Gorter 2013, 87).

Sixty years later, in 1923, the subjects concerning business in general were finally considered important in the light of the social efficiency argument and a new, economically orientated HBS-A was founded next to its HBS–B counterpart⁹. With this new type of schools economic and administrative subjects and modern languages dramatically increased their weight relative to sciences. But still, up to the late nineteen sixties specifically economics

⁴ The structure of Dutch secondary education has since grown into ever greater complexity, with in an increasing number of levels of intellectual reach. In 1968 the HBS was turned into school types for pupils with two different such levels. The easier of the two is still called *higher general continued education* (HAVO); the adjective ‘continued’ referring to its following up primary education and ‘higher’ referring to how it compares to the *continued middle professional school* (VMBO), which offers formation for trade and industry, not for higher education. The other and more difficult school type is the non-classical but otherwise equivalent alternative to the Gymnasium that the Dutch still call ‘Athenaeum’. Like at HBS, neither classical Greek nor Latin are taught at HAVO or Athenaeum. (To further complicate matters, some modern Athenaeums use a certain freedom in the law to form an exception; they engage in preparing pupils to take the exam in Latin in order to compete with Gymnasias which are few in number. This is a very recent eccentricity.)

⁵ Access was to the predecessors of the current Agricultural University (Wageningen), of the Technical University in Delft, and to two former polytechnics for trade and business, now Erasmus University and Tilburg University.

⁶ This happened with remarkably little debate; especially given the generally sceptical response that was eminent about the subject ‘political economy’. See Gorter 2013, 89 and 93-104. See also note 8.

⁷ As to specifically ‘political economy’, below I will simply use the term ‘economics’ for what then was called *staatshuishoudkunde*.

⁸ Economics did not have a written exam as of 1870. See Gorter 2013, 50-51 for details.

⁹ ‘A’ and ‘B’ referred to the classical letters alpha and beta, i.e. to arts and sciences, respectively. As of the introduction of this type of HBS, the existing HBS schools used the letter ‘B’, to indicate their scientific orientation. Note however that ‘B’ also gave intellectual status relative to the new type of education. The ‘translation’ of the Greek letters illustrates the non-classical pretention of HBS relative to Gymnasium.

remained unimportant. Apparently, administrative organisation and business economics was seen to fit the social efficiency argument better than *staatshuishoudkunde* (the Dutch equivalent of *Volkswirtschaftslehre*). And insofar as economics was given any attention, the curriculum was not analytical. In fact, until deeply into the nineteen thirties even university economics stood out with a “strong emphasis on applied economics and practical affairs”.¹⁰

Meanwhile however, in the nineteen thirties a shift in view emerged on the main objective of education. Humanistic *Bildung* came into focus. This development sided with the awaited upgrade in status of economics as a separate subject. A union of economics teachers favouring to thrive interest in economic subjects in general, the VOS¹¹, asked for a study in order to answer the question what arguments there could be to encourage teaching economics specifically, or alternatively dispense with it. The resulting report issued in 1936 was the most fundamental discourse on economics since its introduction into the Dutch system of secondary education; in fact no such deep considerations have been published since¹². It gives a strong defence on the basis of two prominent arguments: one societal, the other more cultural. And the cultural argument is the one that interests us here because it represents the idea of *Bildung* as the second source of motivation for a subject like economics. It is in fact partly a return to a much older educational ideal of before the acceptance of the argument of social efficiency.¹³

The Tilburg professor of economics Cobbenhagen, famous for a speech about the cultural meaning of economics education, wrote the report. His reasoning: economics education is humanistic in two ways. One is that there is culture wherever man uses nature in order to maintain himself because thus man grows to completion. It appears logical¹⁴ to include economic and administrative courses in the education to this particular end. Cobbenhagen felt that administration and business studies form the base of man’s growth, ascending from

¹⁰ Jolink and Blaug 2002, 149. I owe this reference to Gerrit Gorter.

¹¹ The *Vereeniging tot behartiging van het onderwijs in de Staatswetenschappen*. See Gorter 2013, 106-111.

¹² Or at least according to Gorter. See his 2013, 106 and 112.

¹³ But no more than partly so. Otherwise *Bildung* could not side with social efficiency. More than a century before, Wilhelm von Humboldt had advocated a type of education that aimed not for any target outside the learning pupil but for the development of talents that lie dormant in each individual human being. Only with such education one would enlighten himself. If this ensured the satisfaction of preconditions for becoming a professional tradesman or craftsman, it would be entirely secondary. See Kirchner 1970. Clearly, social efficiency put first – emerging happily alongside these new educational views in the nineteen thirties – is not in accordance with this ideal.

¹⁴ Gorter 2013, 109. He notes that Cobbenhagen played down the distinction between humanistic *Bildung* (oriented towards ‘higher values’) and realistic *Bildung* (oriented towards practical use).

these purely practical skills via economics toward sociology and finally philosophy of life. The second way economics is humanistic, he said, is that it bestows the student with training to think properly. In economics teachings there would be sufficient fuel for such training. The report was loaded with the argumentation from the famous speech. And thus, suddenly the humanistic ideal had settled itself as one of the core aims of economics education. Economics as a school subject was due to change from a mere practical specialty into a science.

Post World War II

In the late forties a new view on economics, based on Cobbenhagen's second argument (that learning economics should help one think properly), developed. The econometrician and 'Nobel laureate' Jan Tinbergen¹⁵ understood 'thinking properly' as thinking analytically. He advocated the teaching of economic model making in order to foster scientific thought. In his view analytical skills are best developed when trying to proof formal theses. Tinbergen wanted to see Dutch pupils in school trained in the mathematical reasoning of useful simplifications of economic reality. He compared the formative value of such economics education with that of physics. Now, this is somewhat trenchant. HBS-A had always earned lower esteem than HBS-B. No doubt it was by then fully accepted that HBS would prepare teenagers for a university career. Preparing these pupils for university had grown from a practice into a principle.¹⁶

The argument, that thinking properly could only mean thinking analytically, would grow into a mainstream view among architects of post war economics education. Economics was now a serious science and as of the nineteen fifties the feeling was that this science should be taught in school. Of a long list of professors who found Tinbergen's plea worthy of imitation one deserves special mention for his long lasting influence on Dutch secondary school economics: the Amsterdam economist Arnold Heertje. He published many very successful textbooks for secondary schools and expressed his deeply felt convictions in an enormous

¹⁵ Jan Tinbergen was the brother of the real Nobel laureate in biology, Nico Tinbergen. Of course, Alfred Nobel's will does not enable the Nobel committee to hand out prizes for economics. He held research other than that by natural scientists in rather low esteem. The laureates in economics receive a prize from the Swedish Central Bank 'in memory of Alfred Nobel', which is definitely not a Nobel prize. The common way of referring to it as a 'Nobel prize' sometimes causes misunderstandings; and the joke that economists are the only scientists who can earn a prize that does not exist. In addition to this, Dutch physics students tell another joke. Given that these prizes are as a rule handed out to relatively old recipients while physics Nobel prize winners tend to do so at a young age and that quite a number of the economics laureates had been former physicists, the students say that they can strive to win two prizes: one real and one surreal.

¹⁶ Tacitly and gradually, this had become another aim, alongside with social efficiency and *Bildung*.

amount of articles on economics education. His fame and infamy exceeds that of any other commentator, probably partly due to his apologetic work often not lacking an emotional pitch. He is also perhaps the only university professor in the field who never hesitated to actually personally teach youngsters in secondary school; he did so even till long after his retirement as professor.

Gorter sums up three key convictions that Heertje defended (Gorter 2013, 120-121). These formed his textbooks and, with a 80 % market share, economics in Dutch higher secondary education in the sixties, seventies, and eighties. One is that pupils must learn to understand economic phenomena that occur around them. The second is that mathematics provides a useful tool to this end. The third is that the organisation of a set of hypotheses and theorems into clarifying models purifies the subject of economics such that it makes the assumptions and conclusions of economic reasoning coherent and therefore accessible to anyone. The vast accumulation of articles that Heertje has incessantly engendered to pass this message certainly forms the most elaborate and well articulated argument for *Bildung* as 'learning to think scientifically' we can find in the Netherlands; at least when it comes to economics education. As we shall see, currently very little has been left over of this conviction among Dutch teachers. This loss of emphasis on mathematical literacy in the study of economics is now deeply regretted by Heertje and others.

A question relevant for these most recent developments is whether analytical skills can only be recognised as mathematical skills. The analysis of a set of assumptions and the inference toward theorems clearly requires abstract thinking, which can be learned by training (at least by a share of the population). But abstraction takes place also without classical mathematics. To some pupils economic reality may be obscured rather than highlighted by partial derivatives, but they do engage in abstract thought somehow. What, after all, if they nevertheless carry out sufficiently rigorous analyses of economic problems in other ways than by proofing mathematical theorems? Are these pupils simply too weak analytically to grant them a broad understanding of economic relationships and the skill to apply these? Or are mathematical equations indeed not the *conditio sine qua non* of economic analysis?

Let me answer this question using an example: game theory. We can model the choice options of economic actors who end up in a prisoners dilemma. Such exercises (today part and parcel of formal ethics) often end up strictly mathematical. But the recognition of a mere suboptimal Nash equilibrium does not require the application of mathematical symbols used in formulas. And is abstraction required for merely recognizing a prisoners dilemma? It

seems so, for we can deduce the social consequences of it. To see a game in the strategic puzzles that confront an oligopoly the student has to decide whether the concrete context justifies modelling it as a one-shot game or a sequential game. For example, building or destroying reputations are strategic tools. Real life situations are moulded into a simplification. The theory lays out the hypotheses and the consequences of particular moves in the game and well formed theorems foster predictions. Yet, the formal mathematics may well be absent. Analytical literacy in economics can come without algebra. Tinbergen's ideal of modelling skills does not need higher order differential equations. Abstraction also takes place outside mathematics; or such would be my answer.

Be this as it may, algebra was a defining feature of economics in Dutch schools in the seventies and eighties. While elsewhere school pupils engaged in verbal explanations of economic phenomena and the non mathematical study of Keynesian and market theories to fuel such explanations, Holland taught its school population in mathematical exercises. A cubic equation represented the law of increasing and diminishing returns, enabling us to calculate a U-shaped marginal cost curve. Maximum profit firstly was the solution to a set of equations. Meanwhile, dissent and a new educational ideal gradually emerged.

End of the twentieth century. Towards the new corpus.

It is to the background of Heertje's plea for the use of mathematics that our story of the really big changes, to which economics has been subjected in Holland, turns interesting. As of 1968 a complete overhaul of the Dutch educational system took place. This also marks the end of the otherwise very successful HBS of Thorbecke. HBS splits into HAVO and Athenaeum, leaving Gymnasia untouched. Furious debates on Tinbergen's heritage populate the journals. The scientific depth and mathematical content of economics at Athenaeums and Gymnasia grow to enormous heights but faint again. A pupil centred view on teaching gains in popularity. The centrally examined corpus is gradually stripped. All this eventually leads to the latest new economics program designed by the director of the Central Planning Bureau (CPB), Coen Teulings. We discuss this major program change in the sections below. First we here have to picture the last stage before Teulings, running from the mid-seventies up to 2005.

As of 1975 a deep controversy popped up. Discontented teachers of economics were troubled watching children entangled in learning tricks without the desired revenue of deeper

economic insight. The national study group economics education (LWEO)¹⁷ was founded. Allegedly, it was the mathematical approach itself which caused the unsatisfactory result of their teaching. LWEO wanted to develop economics education into a direction that may be called 'student-centred'. According to this view the key economic concepts should be introduced not in the context of a model of reality from the start, but in the context of an easily identifiable aspect of reality that is directly accessible to teenagers.¹⁸ On the other side of the controversy we find the conviction of professor Heertje that school children benefit from learning the skill to systematically organise data into hypotheses and conclusions, i.e. from academia leading. Note, however, that university economics had meanwhile developed into an extremely mathematical and esoteric exercise. The older ideal of a school subject modelled to science was defended against the background of a rapidly increasing divergence between public economic knowledge, as prominent in newspapers, and the scientific discourse that characterises the economic journals.

LWEO compared the practice in secondary education, of teaching university subject matter, with making tea. Strong tea was made with a fresh tea bag for scientific education. Gymnasiums and athenaeums drank tea made with the very same bag but used again. HAVO, in its turn, got the watered-down tea taste drawn from what was left in the bag. In the eyes of these reformers, this could not be a useful model of how to organise a school subject. Gorter (2013a) quotes George Stigler as one of those who oppose the centrality of the scientific corpus. Already in 1963 Stigler uses the term 'watered-down' when he pities first year college students as not learning to think.¹⁹ After memorising facts, diagrams and policy recommendations the student is left untutored, according to Stigler. And this is no less true for high school courses. In the eyes of the reformers it was time to change a science oriented approach into a real-life oriented approach and this would imply ridding economics of algebra.

From a politically motivated pressure group LWEO quickly turned into a publisher. It has since earned its place in the Dutch educational landscape by the production of alternatives to the official economics textbooks for schools. It was a time when, the content of the curriculum progressively depending on the choices made by the authors of the available textbooks,

¹⁷ In Dutch '*Landelijke Werkgroep Economie Onderwijs*'.

¹⁸ Gorter notes that the minds were ready for this view. The reform pedagogical turn in the US before 1900 gained influence in the Netherlands eighty years later (see Gorter 2013, 301).

¹⁹ In Stigler 1963. Note that Stigler turns Tinbergen's argument around. Instead of seeing scientific training as prospering the skill to analytically think he identifies it as the obstacle.

the number of different textbooks to choose from rapidly increased.²⁰ However, as the alternative textbooks had to prepare pupils for a central examination too, the mathematical toolbox was still determined by the official exam program. So ironically, LWEO could in the end not sidestep the mathematics of the exam.

Quite apart of mathematics or academic orientation, the emphasis on teaching the skill to think rather than to reproduce – as we have seen originally rooted in the old ideal of *Bildung* – was firmly on the agenda. But this does not answer the question what to think. The zenith of LWEO in these years was also the heyday of leftist critical thinking. Teachers of economics started to criticize the pretention of economists to do value free science. The conviction among a rising share of teachers was that economics neither could be value free nor should it be taught as if it were value free. Values like the wish to reduce poverty and protect the environment should be made explicit in the study of economics. We can see how in this way social meliorist rather than social efficiency arguments come to the fore. The call to design the subject around the interests of students and their specific capabilities fitted into this new wave of politically motivated education. So the concern that school pupils developed mere technical skills without an understanding of the causes of real economic problems quickly also turned into an apprehension that they would not learn about the right sort of economic problems. While Marxism as a theory never found its way into economics as a school subject, Keynesianism did so very forcefully. Squarely in accordance with the university paradigm of the day, it was taught that rising public debts are acceptable for the alleged possibility to skim off the revenues in the private sector that rose in a multiplier process. For many years Dutch pupils were taught to calculate equilibriums in ISLM-models²¹.

Already before the birth of LWEO a consensus had settled that systematic programs for school subjects were necessary. In 1974 program committees for modernisation of the curriculum were introduced for many such school subjects in order to soothe dissent among the scientific community, politicians and secondary school teachers. For economics the committee counted with a considerable 37 members; its discussions must have been difficult to manage. No wonder it took till 1981 before there was a recommendation to the ministry of education. They managed to come up with something for gymnasium/athenaeum only, not for HAVO. In addition, the ‘new’ program wasn’t very new compared to what had come to be

²⁰ Gorter observes that the textbooks presented economic theories as absolute and without any historical roots. See Gorter 2013, 164.

²¹ This is the heritage of the model John Hicks’ developed in 1937, one year after the publication of *The General Theory of Employment, Interest and Money*.

practiced. The core curriculum was topped up with a list of economic topics to choose from; such to be decided by the teachers or by the students themselves. The heaviest elements of algebra had been put into these optional topics. Thus, the dissent about the role of algebra in economics was somewhat dwindled.

Due to the dissent, for HAVO no proposal could ever be done by the committee. The practice at HAVO of before 1974 was in fact continued up to 1998, when again an overhaul of Dutch education was digested. In preparation of both the central and the decentralised examination²² pupils had to choose one out of four different 'profiles', i.e. clusters of exam subjects. The names of the profiles speak for themselves: Culture & Society and Economics & Society (these are in fact the successors of the old HBS-A), Nature & Health and Nature & Technology (successors of HBS-B). The changes of 1998 did not alter the economics subject much, be it that the subject matter was now parcelled out in 17 domains and that the scientific content was slightly alleviated. Several administrative decrees had already lessened the scientific content of the centrally examined corpus. Abstraction and modelling being still prominent in the school program as before, the portion that was subject to central examination shrank and became easier to learn.

The century comes to an end, a new century brings the first really significant renovation of the economics program. Coen Teulings, the director of the Dutch Central Planning Bureau (CPB), presides a committee who reconsiders the content of economics as a school subject. One of the two core aims of the renovation is to keep the school subject up to date with developments in the science of economics, above all the newest behavioural economics aspects that are increasingly studied at universities. The other aim is to enable students achieving transfer: using the skills in new contexts. Teulings' committee presents a report on the principles for a new corpus extremely swiftly in 2002 (one year after installation). In 2005 the corpus is published in 'The Wealth of Education'. In 2007 the syllabus is published. The first pupils have been examined as early as 2010 in pilot schools, in 2012 in all schools.²³

²² In Holland all school children finish their education with two sets of exams, one national, called the 'central examination' and one designed by the schools, called the 'school exam'. The end mark is the unweighted average of the results earned in each.

²³ The central institute for the development of testing (cito) traditionally produces the central exams. In 2009 cito composed an official exemplar exam. The final implementation of the central exams starts in 2012 for HAVO, in 2013 for gymnasium/athenaeum.

2 Two striking novelties in Dutch economics education

The following section will further scrutinise the aims and problems of the latest program change. Before entering into this contemporary history we ask some concluding questions. Reformers had objectives in mind. So how have educational ideals helped to attain the goals? Algebra was an important tool chosen to achieve some of the aims and it defined Dutch economics education in secondary school, but it was of course not the only tool in use. What tools were in use and what was to be achieved precisely? Student-centeredness was an educational ideal as of the seventies, an idea rooted in a view on what education could do and should do from the previous century, in the reform pedagogical movement as it had developed in the US. It became an end in itself. But student centred teaching is above all a means, not an end. Did the reformers fail to distinguish means from ends?

Let us explore these questions a little. Gerrit Gorter distinguishes three possible orientations to economics education along which he expounds its history. The first is the orientation to science, the second to society and the third to the learner. The scientific orientation fits nicely with *Bildung*. The orientation towards society appropriates the social efficiency argument for teaching economics, and the quest to achieve such an ideal can be declared an explicit educational aim; we have seen that it was the main aim during the existence of Thorbecke's HBS. The third orientation aims to connect with the level of knowledge and development of the secondary school pupil of a certain age. As noted, this points more to means than to ends. But, clearly, student centeredness can easily be mistaken for an end in itself.

There is an obvious social interest in the study of economics. Economic phenomena demand explanations from economic theory. They do so due to our desire to be masters over our possibilities to create wealth and to intervene in the economic process. So teaching economic theory to students helps achieving this aim and so the purpose to provide *Bildung* pairs with social efficiency. But is the other aim, of putting the interests of a school pupil first, also compatible with the other two? Insofar as it competes with *Bildung* and social efficiency, apparently no. Not if students are interested for instance in juvenile unemployment but not in risk aversion on the capital market or in modelling techniques. Besides, we noted that connecting well with the level of development of the pupil seems to be a means rather than an end. Yet the explicit intention to link up well with the interests and capabilities of the school population in fact buttresses the new program. Two didactical tools are in use to make this happen. Both of these present Dutch secondary school education with completely novel experiences.

School subjects like economics or chemistry are built up around concepts and contexts. This is the first tool. A concept is the theoretical term that the students have to integrate into their stock of knowledge, but also its explanatory power and some of its exemplifying applications. The context is one part of reality to which the concept is to be applied. If the context is given, the students have to find the relevant application. The idea at stake is that they learn to transfer their knowledge to new and unexpected situations. Their knowledge has to grow toward expert levels as much as possible by the interaction of concept and context.

But contextual teaching has a wider reach than mere transfer. Contexts form part of the toolkit to help economics connect with the interests of the pupil. As contexts are real life ingredients they deliver concrete materials to guide the learner. So, indeed, a contextual approach can be made more pupil friendly than a curriculum dominated purely by theoretical concepts. But the term 'contextual approach' is ambiguous. There is a difference between contexts being the starting point of a course, leading the pupil toward the conceptual apparatus of economics to analyse the contextual problem posed, and contexts as making up the course from start to end. The first has to do with the way in which we teach. The second deals with the very content of the course. This distinction renders the following matrix.

		Orientation of the corpus taught	
		contextual	conceptual
What is starting point in the presentation of the corpus?	context	1	2
	concept		3

In this scheme cell 1 would mean a curriculum that is fundamentally contextual in kind, without any aspiration to arm the students with the theoretical ammunition to analyse economic problems coherently from a theoretical viewpoint. It requires no mention that this is far from what Dutch economics education is supposed to be after the turn of Jan Tinbergen and Arnold Heertje. Cell 2 indicates a curriculum that aims to develop such a conceptual toolbox. But the contexts provide the reference points for students who have not yet gained access to the theory. If a course starts with contexts but aims to teach concepts, then the contextual approach is above all a didactical instrument. Cell 3 characterises a course with the objective to teach the concepts by just telling the students what the concepts mean and how they are

to be used in general – and in specific contexts that merely serve to provide examples as to how to apply the concepts.²⁴

Education is very effective if students are presented a context posing an economic problem. The problem waits to be solved. For as long as the theoretical toolbox lacks, the students will discover that the problem cannot be solved straight away. Then, gradually, the relevant concepts appear on stage and the problem can be tackled. In other words, the quest for a solution motivates to learn the relevant concepts inductively, and this is what cell 2 of the scheme implies. In comparison, a deductive strategy would endow the learner with the necessary concepts and then present contextual problems that can straightforwardly be solved with these concepts: cell 3. But all this concerns didactics, not examination.

During the pilot the developers of the exam exercises at cito tried to answer this one question: is it possible to write central exam questions that also take concrete contexts as a starting point while – underlying, so to say – theoretical concepts form the core? Not really, it turned out to be the case. Exam makers always use the particular concept needed as an orientation for designing an exercise and next look for a context only to enable the candidates to apply their knowledge; pretty much along the lines of a deductive didactics. They start with the concept for the need to test precisely that: whether the students have acquired the concept and integrated it into their stock of knowledge. It became clear that teaching and examining require two very different strategies, as different as the cells 2 and 3 already suggest. As there should be no ‘state directed didactics’, the strategy reflected in cell 2 is entirely a matter of schools and teachers to choose.

Dividing up the curriculum explicitly in contexts and concepts is the first tool to introduce a teenager friendly education in economics. The second tool is ‘classroom experiments’. Schools are obliged to introduce economic experiments into their classes. In the Teulings program we read this intriguing comment:

‘The role of game theory in the program does is not only consequential in the central examination. It also brings about new activities in the classroom and in the decentralised school examination. Game theory and simple market situation any way, can excellently be tested in experiments. To test economic theory experiments are well accepted and many of these can easily be reproduced in school. This is very instructive because experiments help one to see through the practical meaning of economic theory. Moreover, reporting the results of these experiments helps develop research skills. The

²⁴ Obviously the empty cell represents an impossibility. If the aim is to limit teaching contextual knowledge there is no point in starting with a conceptual treatment of economics.

*commission has decided to reserve much room for doing experiments in the school exam.*²⁵

The quote is remarkable indeed for its outright novelty: a program commission that orders how to teach and test at the school level. This what the Dutch call ‘state didactics’, a term not for everyone entirely free of pejorative connotations. Nothing of the sort has ever been seen before in the Netherlands. As can be predicted, quickly after the publication of the Teulings II report many initiatives sprang up to help Dutch economics teachers to design economic experiments for their pupils. Editors provided appendices to their textbooks with completely figured out experiments for the classroom, private enterprises produced expensive games in fancy boxes for sale to be played by the pupils during class. Many teachers have never been confronted with behavioural economics or game theory in their own education and so there was a lacuna to be filled – and a pleasant market niche.

Whether these experiment now function as tools to gratefully set up inductive teaching strategies or rather as mere illustrations to the corpus otherwise deductively taught is a matter left to Dutch teachers. To this extent the choice of didactics remains in schools – although the official orientation along the dichotomy of concept versus context and the obligation to work with economic experiments are new forms of state influence on education.

3 Aims and content of the Teulings program

The commission ‘Teulings II’ was installed in 2004 by the minister of education and science. Its task concerned economics – not business studies²⁶ – both at gymnasium/athenaeum and at the theoretically lighter HAVO. The commission built its design for a new economics program on the basis of ‘Teulings I’, the preceding commission that had formulated the aims and principles in 2002. The report of Teulings II was presented in 2005 and called ‘The Wealth of Education’. It is a remarkably clear and well written document, way different from the administrative reports one may often have to chew on. The text opens by mentioning the explicit educational aim of the program: that students should “develop an economic outlook on social phenomena”. This formulation is of course specific for economics and it can be subsumed under either of the general aims of education discussed above: *Bildung* or social efficiency, but apparently also under the more practical objective to provide an entrance ticket to institutions of higher education – and the necessary skills to make a fair start there. So

²⁵ My translation. The Wealth of Education 2005, 12.

²⁶ Currently, a commission for the renovation of business studies in school is working under the presidency of the Dutch economist Arnoud Boot.

what is an economic outlook beyond the trivial interpretation that economics should help you to understand the economy? In answering this principal question we find that the report provides sufficient precision and clarity on what an economics school curriculum is supposed to achieve.

We distinguish in fact two views, one on pedagogy and another on the scientific content of the school subject itself. We call the first view pedagogical for its focus on how the pupil should acquire economic literacy. We classify the second view as scientific due to the focus on economic content, that is on the question what schools should teach as part of the scientific corpus. In other words, the content of economics at these types of schools remains fundamentally science centred.

Aims: pedagogical and scientific

An economic outlook on social phenomena is one that helps see an analogy in such very different contexts as – for instance – a firm and a private household. In both backgrounds the individual finds himself faced with choice problems. Demand and supply also exercise its force in the many ways members of families interact. Another example is that of investment. This is not only the purchase of physical capital goods or the build up of a portfolio of assets, but also the expenditure necessary to educate oneself and thus raise one's value on the labour market. These two examples are explicitly mentioned in the report presented by the Teulings committee (The Wealth of Education 1991, 10). But it is easy to bring up endlessly many more examples of real life situations that classify as very different contexts but show conceptual similarities when it comes to the economic analysis of choice problems. The reader merely has to imagine in how many cases people are confronted with prisoners dilemma's. To develop an economic outlook, then, is a pedagogical objective.

To see deeper economic analogies in superficially very different domains of the social world requires transfer. Students have to transfer the understanding they gain after solving a choice problem in one context toward a totally new situation that may look different from the first. The multitude in appearances of any social situation does not generally invite us to see such analogies and economic literacy is precisely the skill to see beyond the appearances and approach the new problem with the same tools. If this is true, economic literacy is above all the ability to abstract from 'disturbing' factors that define a specific choice problem and to conceptualise it in terms that apply to a whole class of problems, of which the problem in hand is one member. Knowledge that can be transferred is expert knowledge.

It is also a matter of pedagogy how this outlook is supposed to differ between gymnasium/athenaeum and HAVO. The report states that whereas the HAVO-program will emphasise economic problems that turn up when, for example, someone starts a business²⁷, pupils doing gymnasium or athenaeum will have to concentrate also on coordination issues in society. An interpretation of this may be that the latter deal with economic problems that stretch somewhat further away from their direct real life experience. Indeed, 'The Wealth of Education' explicitly notes that they can be expected to reach higher levels of abstraction than HAVO pupils. So much for the pedagogical aims, let us consider the scientific aims.

'The Wealth of Education' refers to Dixit and Nalebuff (1991) when it takes position in the study of markets as coordination mechanisms. The starting point of study should not be those anonymous individuals who enter perfect markets as prearranged circumstances. The environment is not an unmalleable datum²⁸. It provides the individual with a finite set of possibilities that invites strategic behaviour. Market parties look for opportunities to exercise their influence on the environment and learn to refine their strategies in the interaction with it. It is rather the lack of perfection that can be exploited. Thus, monopolies reap a surplus that can be challenged.

This, then, is also the starting point for economics as a school subject in the Netherlands. Actors are seen to constantly solve problems strategically and the result of all the actions taken need not be optimal socially. Thus, game theory is central to the microeconomic corpus. Dutch economics education has adopted the latest in behavioural economics. The micro curriculum can be qualified as 'up to date' with the developments in academic economics. So what about the macro curriculum?

There was some criticism about the principles in 'Teulings I' concerning the reduced extent to which macroeconomics was presented. For 'Teulings II' three Dutch economists²⁹ have been consulted on the basis of which the following fields were defined as constitutive: (1) the economics of public choice, (2) long-term developments and (3) short term fluctuation around the trend. The first, economics of public choice, has now been incorporated into the microeconomic corpus. Where markets fail as coordination mechanisms public interventions

²⁷ This is not to imply that for HAVO economics be partly loaded with business studies. It is only to clarify that economic choice problems are drawn near to a student's personal interest.

²⁸ It is perhaps etymologically interesting that in Dutch the word '*omgeving*' (and in German '*Umgebung*') means 'what is given around us' while the word 'environment' in English ('*environnement*' in French) only bears reference to what is *environ* or around.

²⁹ Rick van der Ploeg, Sweder van Wijnbergen and Lans Bovenberg.

come to the fore. So this element of what was proposed as important macroeconomics could easily be accommodated by the study of markets, especially since the approach to market analysis has altered its starting point from market perfection to market imperfection. The second and third, viz. long and short term developments respectively are treated in two special domains. These domains compose all of the examined macroeconomics. The first is called 'wealth and growth' and the second is called 'good times, bad times'. Below we will see that this way of organising the response to the criticism has not brought the educational fruit that Teulings initially expected. A large share of our story is devoted to the efforts done in repairing the damage.

The corpus in focus

The nine domains of study listed below constitute the current program.

- A Skills in economic analysis
- B Scarcity
- C Exchange
- D Markets
- E Exchange over time
- F Cooperating and negotiating
- G Risk and information
- H Wealth and growth
- I Good times, bad times

Domain A is special because it describes the skills; it describes what pupils are supposed to be able to do rather than what to know the theory of. The other domains demarcate the content with regard to which the skills must be developed. Think of the sort of calculations in analysis or the ability to distinguish factual statements from judgements. This domain is organised in five types of skills: information selection, arithmetical and graphical illustration, choice of outlook, strategic understanding, and finally what is simply called 'experiments'. Doing economic experiments cannot be tested in a central exam and this type of skill is left to the schools. Below we will dive a little more into the meaning of this remarkable requirement.

Dutch pupils are supposed not only to distinguish between economic reality and the ways economists try to model this reality, but even – as it were – to step in and out of the perspective that a model takes. Sometimes the model helps to understand the data and to make sense of possible solutions to an economic problem; sometimes however it does not. There may be forces outside the scope of the model that violate a *ceteris paribus* clause. Therefore, one small but very interesting set of three interdependent skills is this:

- to distinguish the assumptions of economic models and the conditions under which they can be applied from the data of the context,
- to reason within the framework of the assumptions of a model,
- to reason outside the framework of the assumptions of a model, when the problem solving requires so.

In effect, it is taken that the pupils must not only know how to use an economic model, but also how to weigh the relative usefulness of the model.

The law maker has demanded that 40 % of the content would be left to the schools to examine, while the other 60 % should be examined nationally by an exam produced by an independent body: *cito*³⁰. The 40 % to be examined in-house is not less important but surely some schools tend to feel that, still, this part can be shifted toward the margin. Every effort goes into helping the students to pass the central exam. A high passing rate is seen as a quality mark for the school.

It has been decided that, of the above list of domains, B (scarcity) and C (exchange) fall outside the scope of central examination. But now there is a catch. B and C are evidently foundational: none of the other domains D to I describe any content that can be tested without also testing – perchance implicitly – what pupils know about the role of scarcity and about how exchange is related to human wealth production. The consequence of this is that in fact the entire subject matter of the syllabus is indirectly tested by central examination and so, in practice, no economic content remains outside its scope. Moreover, the mere domains B and C hardly represent 40 % of the subject matter as there are seven other domains with considerable content. This decision does not conform the intention of the law. How is this possible?

I want to entertain here a somewhat bold hypothesis to answer this question. There is a very strong case to make that the designer of the new program, Coen Teulings, has in this way committed a silent coup. Let me explain this carefully.

³⁰ See note 23.

Coen Teulings never liked the demand to separate a centrally examined corpus of economics from a section left to schools for examination.³¹ How could the demand be met? Domain D is about markets and exam questions that abstract from what economics truly is in the first place are inconceivable. The domains E, F, and G in turn contain most of the newly introduced economic content. Here we find all the behavioural economics, i.e. the corpus that is new to most of Dutch economics teachers. To cut off these three essential domains would imply a smaller pressure on teachers to truly renew their teaching and give school students the opportunity to draw near the developments in economic theory of the latest forty or so years. So it was no option to shift these toward what many tacitly interpret as the margin of the program. The last possible candidate to leave to the discretion of the schools is the macroeconomic content, domains H and I. But also this bit has altered considerably, with its new more microeconomic outlook. Besides, it would cut off many possibilities for the national exam makers to compose interesting exercises. This was not attractive either. So according to my hypothesis Teulings designated B and C as the part left to decentralised testing in order to at the same time satisfy the political demand to limit the corpus for central examination and get his way in that no real bit of it would escape the reach of the exam makers. So, in my view, Teulings has used a rather smart tactics to get his way.

Let us now zoom in somewhat further on the characteristics of the subject matter we find in the domains. Most of it is microeconomic. It shows a very coherent entity, with the behavioural economic approach clearly outstanding and not treated marginally as if it had been added later as a mere excuse – as we still can see ever so often even in modern textbooks. Key concepts, such as risk aversion, reputations, repeated games, and creditworthiness, return in several contexts.

Meanwhile, the macroeconomic domains show a very different picture. In earlier times this part of Dutch secondary school economics had a face similar to what we saw appearing in other western countries: the Keynesian approach. The business cycle was analysed with the toolbox of aggregate demand in equilibrium with national income. The ISLM-model compared simultaneous equilibriums in the capital market and the labour market. Before, the dominant theoretical orientation had easily caused macro to cohere. But The Netherlands has said goodbye to Keynes. Short term fluctuations – somewhat comically referred to as ‘good times, bad times’ – are now part and parcel of a theory about how quantities are forced to change under a regime of price rigidity. This way of looking at it has its didactical troubles;

³¹ Coen Teulings in personal communication.

we will analyse these in the following section. Here we just observe that it turned out difficult to extract exam exercises out of it. In the exam program itself, 'The Wealth of Education', it all hangs relatively well together. But the first version of the syllabus in use gives the impression of a fragmented corpus, heavily in need of more institutional facts as the knowledge base. It is difficult to see the core of it. One example is that of money. The treatment of its functions in exchange belong to domain C, but monetary policy is a typical macroeconomic issue and one of the tools is the interest rate. What if, officially, exam makers are not allowed to ask too much about the effect of the price of money in the examination for its belonging to the forbidden domain C? What if no integrated macroeconomic theoretical viewpoint can be explored in order to deal with realistic macroeconomic problems?

At the end of the pilot the exam makers concluded that the lack of coherence in the macro part of the syllabus, the domains H and I, caused a lack of coherent exercises. Unemployment turned in a topic about the labour market, the wealth effects of trade in the currency market. Macro had this touch of microeconomics possibly much more strongly than Teulings had anticipated; so strongly that teachers failed to see the macro of it. The older teachers had been accustomed to treating macroeconomic theory. But in the syllabus there wasn't any such theory. By the time the pilot was over and the new exams had to be taken by all school children, it was decided that this part of the syllabus had to be re-edited. Meanwhile, schools were told that, for the time being, cito would not produce exercises entirely in the realm of macroeconomics. Exam questions could be macroeconomic in kind, but always embedded in exercises with a mixture of other questions with a microeconomic outlook, until a new commission had revised the domains H and I. And this is what happened. In February 2015 the latest edition of the syllabus has been presented to the minister. The new corpus has the endorsement of Coen Teulings: the New Keynesian Phillips curve. Below I will report on its birth and its characteristics.

4 Current didactical problems

Now that the new syllabus is fully in use, the problems in teaching it clearly stand out. I detect three such troubles, one merely practical and two didactical in kind. For all three difficulties reparations are under way. Section 5 deals with the most thorough reparation, so radical in fact, that yet again a commission had to be formed to make it happen.

It has already been mentioned that a new corpus may face teachers with subject matter they have never been taught themselves. The topics from behavioural economics find their way

into academic teaching today, but many teachers got their training long ago. This is the first problem. Fortunately, this practical drawback is easily repaired. The minister supplied the schools with a reasonable sum of money to enable their staff to attend refresher courses. Now, one may otherwise wonder whether Dutch educational staff is not sufficiently professional to permanently educate themselves and be on top of the latest developments of their science, regardless of any transformations in secondary education. I tentatively formulate an answer to this question: probably not. Whereas in academia it is considered normal to be cognizant of the recent literature in one's specialised discipline, not many secondary school teachers read scientific journals. School boards do not even expect them so. My hypothesis is that this has something to do with considerable wage cuts of the nineteen eighties. Let me explain.

In the seventies teacher salaries attracted university students with ease, but as of 1985 the pecuniary reward for teaching gradually eroded. This demanded a toll especially in the subject of economics. Nowadays teacher training for economics students has this tacit flavour of something for the less talented. It needs no argument to note how detrimental this is for economics education. Today more and more teachers – for economics as well as for other subjects – are educated at polytechnics, the Dutch version of *Fachhochschulen*. Meanwhile this new generation of students in these polytechnics are to teach future pupils many of whom themselves will soon enter university. We should not underestimate the significance of this phenomenon: teachers who have never seen the inside of a real university are now fully licensed to teach pupils among whom we find the future professors. While gymnasiums and athenaeums prepare for academic careers, some of their teachers do not even know what a university is like. One Dutch opinion maker, himself an economics teacher trainer at Leiden university, vociferated that due to budget cuts 'every year more academically trained teachers leave secondary education than the number that enters it [...], three to four times as many teacher come from polytechnics as from university. They all stay in secondary education whereas three quarters of the academics leave secondary education within five years'.³² The result is that a fair share of the teachers do not behave like professional academics; that is after all not what they are.

³² Ton van Haperen, in *NRC Handelsblad* 22 November 2014. Unfortunately, these polytechnics dress their windows as they call themselves 'universities of applied science'. This only underscores the seriousness of the problem.

So the answer to the question whether many teachers have remained ignorant of the scientific developments in their subject is that they indeed have. The unease about their lack of training is caught on the way by the full confidence the teachers tend to have in the economics textbooks. They learn by teaching from the pupil's textbooks. However, the authors of the textbooks, in turn, find their orientation in the content of the syllabus, and this brings us to the second problem.

In contrast to the new syllabus, the content of the exam program before the Teulings report had, after so many years, become common knowledge. The items in its older syllabus immediately triggered the right associations in the minds of experienced teachers for the what and the how of teaching. The central exams presented no surprises. Now however, teachers frequently complain that certain exam questions require knowledge they did not teach their classes. Mostly with little justification but, nonetheless, the second problem is that the syllabus does not bring certainty about what is demanded. For example, the new microeconomics is fundamentally transaction cost economics. Still, teachers tend to look in the syllabus in an effort to find the term itself, and they will not. As a consequence their conclusion is, dangerously, that the subject matter does not include the theory of transaction costs even though the relevance of transactions costs is obviously implied.³³ More generally put, teachers tend to read the syllabus as limiting instead of enabling. That is, they conclude that everything not explicitly mentioned in the syllabus will be no part of the exam. Textbook authors also tend to present the pupils with a somewhat eclectic synthesis of the corpus; which clearly is unsettling in the circumstances that teachers heavily depend on it.

This effect is especially prone with regard to the institutional content. This is dealt with rather thinly in the syllabus. The precise definition of unemployment as joblessness for at least 12 hours per week – to give another example – is absent in the syllabus. Hence, there will be no exam question testing this knowledge. But the definition is relevant for the economics of, say, social security. In effect, unemployment is not defined at all in the syllabus. Exam questions on this theme simply can provide the exact definition as part of the data of the exercise at hand, when so required. But the exam cannot be topped up with all sorts of definitions endlessly. And teachers not finding the definition of unemployment in the syllabus must somehow deal with this crucial concept in the classroom, and they wonder how. The students have to understand unemployment in some way. They tend to consider unemployment alienated from its institutional context: as a mere labour market surplus. So as few real insti-

³³ This is one example of a complaint expressed in 2010 to the national exam board (CvTE).

tutions are mentioned in the syllabus, the general consequence is that exam makers often hesitate when some knowledge of institutions is needed for the context of an exercise. This, then, is the other troubling peculiarity of the new reality in which Dutch economics education finds itself.

These are both troubles that will pass as everyone gets used to the novelties. The third problem is more mountainous. So much more in fact, that the entire next section is devoted to its solution. In section 3 we have seen that the macroeconomics of the syllabus does not theoretically cohere. Teulings conceptualises aggregate supply and demand to fluctuate as corrections in a world with rigid prices. Thus, macroeconomic entities emanate from – or supervenes on – microeconomics, all aggregates are taken to spring from market forces. So how to teach it?

The relation between micro and macro as presumed in Teulings' report is rooted in the treatment by Gregory Mankiw³⁴. He presents aggregate supply to be perfectly elastic in the short run due to the assumption of price rigidity (quantity adjustments when prices do not move), and perfectly inelastic in the long run due to the limits set by macroeconomic capacity (price adjustments when quantities do not move). Meanwhile, aggregate demand slopes downward as implied by Fishers equation: $MV=PY$. Ceteris paribus the velocity of money, a rise in prices decreases the value of money forcing real GDP to shrink, and mutatis mutandis a fall in prices will raise aggregate demand. So this is how the negatively sloped aggregate demand line is explained.

Gerrit Gorter (2013b) takes the perspective of a teacher trainer when he complains that secondary school pupils tend to associate microeconomic demand and supply lines with Mankiw's aggregate lines. But they are fundamentally different: micro supply is caused by marginal cost and micro demand by utility. As macro supply stems from (in)flexibility of prices and macro demand by the price of money, the two demand-supply schemes have nothing to do with each other. How to deal with this in the classroom? And matters are worse than just this. Nominal prices did rise in the past six post-crisis years but quantities fell. Does this mean that the long run takes longer or has a ceteris paribus condition been violated?

³⁴ There are some serious methodological and even philosophical pitfalls connected with what I would call a reductionist approach as proposed by Mankiw (see his 2013). It stretches beyond the aims of this paper to discuss them here, but see Hoover, 2001. Here we limit ourselves to the didactical difficulties.

It appears that Mankiw's schemes provide insufficient theoretical body for effective teaching of macroeconomics in the classroom. With Gorter (and Heertje) I would defend the thesis that, even (or especially) with an eye to the need to prepare teenagers to function in civil society, a purely macroeconomic model is needed which clearly lays out all the assumptions, hypotheses and theorems³⁵. At least, that is what would do good to education in the higher school types, the gymnasiums and athenaeums.³⁶

5 Macroeconomics revisited: the immediate future

We get what we want. In 2013 yet another 'syllabus commission' was formed, this time to design a new theoretical corpus for macroeconomics, effective as of 2017, and covered by the domains H and I of the syllabus, and only for the top level: gymnasium and athenaeum. But in addition to the didactical and examination difficulties, which gave rise to the commission, an increasing need was felt to teach about the latest developments in the economy. The economic crisis, which started in 2007, was spreading world wide in the course of the implementation of the new economics program in Holland. On the one hand the new Teulings program was conveniently well timed. The crisis originated in the abuse of asymmetric information and this precisely is what the new program delivers a theoretical viewpoint about. The roots of the current world economic crisis could never before have been explained better than with this syllabus. But on the other hand there was the feeling that the specifics of the macroeconomic effects of the crisis could not be dealt with. So not only was there something to be desired in the macroeconomic corpus for theoretical reasons (the concepts), also for the interest in current affairs (the contexts). How to interpret the newspaper headlines about austerity measures for southern European countries and the quest for a new Keynesian stimulus package with the syllabus as it is? So there was the double task of securing coherent education in theoretical macroeconomics as well as education in the analysis of current developments of macroeconomic reality.

Note that this is all together a bit strange. A syllabus for nation wide economics education would merely delineate the theoretical fundamentals. The real economic phenomena develop day to day. A syllabus cannot be updated at the same pace but should serve as a silent guide. We should after all not mix up theory with its application.

³⁵ Although he claims not to care what model that should be. I would strongly recommend to first consider the criteria for a good macro-model. See Gorter 2014 and my response, Rol 2014.

³⁶ For HAVO there is no such need. As the emphasis lies more on reproductive knowledge and orientation in microeconomic contexts. What has to be learned about macroeconomics can remain more fragmented.

True. However, the traits of the current crisis are historically very special. The world has never seen such combination of characteristics before. There is not only a deflationary crisis on the demand side of the economy but also in the household balances and in public balances. There is disequilibrium in what the Teulings program calls 'the market for exchange over time' (domain E). Excessive risk aversion causes an enormous divergence in the prices of risky against risk free assets. New businesses do not get started up easily due to scarcity in risk seeking capital while in the meantime there is a savings surplus with negative real interest rates.³⁷ On top of all this, authorities are faced with a zero lower bound to interest; monetary stimulus is ineffective. It is hard not to take account of this new reality when designing a new macroeconomic corpus for secondary school.

The current economic situation is interesting for a misunderstanding that is prone in the public debate. Coen Teulings, at his farewell to his chair as director of the Central Planning Bureau, expressed his concern for the economic crisis and noted that the government would do best by currently increasing its debt. Leftist political parties were quick to denote this as a purely Keynesian proposal. While the Dutch minister of finance travelled to Greece to explain the enforced austerity measures, the leading opinion maker and Dutch economist seemed to have taken a book by Keynes from the cupboard. Eye-brows rose. What was going on?

The point is that not all fiscal stimulus is also in every respect Keynesian. The policies of the seventies were to discretely alter government budgets with the objective to 'run' the economy along the business cycle. That was taught to be Keynesian³⁸, in contrast to what was considered 'classical'. But Teulings' proposal has nothing to do with a Keynesian discretionary intervention recipe. The current crisis has it this way: the private sector is paralysed in deflation while monetary policy has turned ineffective due to the zero lower bound. The only way out of the crisis is by public spending to swallow the savings surplus and to ignite investment.

So what would make for an adequate body of macroeconomic subject matter under these circumstances? To answer the question two criteria matter. The first is that it must cohere

³⁷ This is the heart of what Teulings calls 'secular stagnation'. See for instance <http://lexicon.ft.com/Term?term=secular-stagnation>. The term has been used by Larry Summers at his 2013 speech for the IMF, on 8 November (see <http://larrysummers.com/imf-fourteenth-annual-research-conference-in-honor-of-stanley-fischer/>)

³⁸ Note that 'Keynesian' refers here to what later economists of this flavor liked to call themselves. John Maynard Keynes himself could never have defended discretionary policies in order to manage the business cycle, for such policies would run counter the effectiveness and sustainability of the Bretton Woods system, which was after all his intellectual child.

with the rest of the syllabus. This means that the commission could not plunge a macroeconomic theory into the syllabus without any links whatsoever to the microeconomic content. The second is that the macro domains should help understanding the current state of the world. This is the task of educating pupils about how economics applies to our new economic reality. Meeting the first criterion caused some disarray among members of the commission. Some of them preferred to introduce familiar theories they had learned many years ago. Shouldn't Keynes be rehabilitated? Hicks' 1937 ISLM-model was debated. Every model seemed to pin down an economic view while excluding alternatives. A bewildering variety of proposals – and their rejection – kept the commission paralysed for quite some time. But the decisions have been taken.

The commission presents the revised domains of the syllabus this year. The new corpus is organised around the theory of the New Keynesian Phillips curve. Dutch students will have to learn about the limits within which authorities can exploit the short run Phillips curve in order to excite output and how they can lose their reputation and with it their hopes to the effectiveness of their own policies. The theory tells them about the non-accelerated inflation level of unemployment as determined by wage rigidity and structural misfits in the labour market. Concepts like money illusion, repeated game, and asymmetric information sustain the microeconomic content of the syllabus but are reused in a macroeconomic model. The concepts needed to learn about the current crisis of household and public balances have also been written into this corpus.

The drawback of this new move toward the New Keynesian Phillips curve is that, again, many Dutch teachers are only distantly familiar with the subject matter they will teach – or not at all. Refreshing courses have to be set up again. The carousel of deep interventions in Dutch economics education keeps on revolving.

The revenue of this all: teachers are to find out that the only way to stay tuned is by life long learning, that is, by doing what their pupils have to do.

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