

**A social innovation or a product of its time? The Rehn-Meidner model's relation  
to contemporary economics and the Stockholm school\***

by

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A wage and economic policy programme for full employment, price stability, growth and equity was developed by two Swedish trade-union economists in the early post-war period. A restrictive macroeconomic policy, a wages policy of solidarity and an active labour market policy are the cornerstones of the Rehn-Meidner model. The model was influenced by Hans Singer's analysis of the fallacies of incomes policy under full employment conditions. However it is difficult to find equivalences in contemporary economics to the model's composition of means and goals, functional relationships or to its emphasis on the role of actual profits in wage formation.

**Keywords:** Rehn-Meidner model, Swedish model, Stockholm school of economics, labour market policy, wages policy of solidarity.

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In practice, every intelligent person is superior to his own theory.  
(Rehn: 1980: 52)

## Introduction - a Swedish economic policy

The Rehn-Meidner model is a central feature of the 'Swedish model'. A report to the 1951 Congress of the Swedish Confederation of Trade Union (LO) presented a coherent economic-policy and wage-policy programme for full employment, price stability, growth and equity (LO 1953 [1951]). The programme included a restrictive macroeconomic policy, mainly indirect taxes, an active labor market policy and a wages policy of solidarity. The 1951 LO report was the result of a team work by LO's research department but its policy programme was later accurately called the Rehn-Meidner model (henceforth the R-M model).<sup>1</sup> Gösta Rehn – the leading LO macroeconomist at that time - was responsible for the sections on stabilisation policy while Rudolf Meidner – the head of the LO research department – was the architect behind the sections on wage policy and disorganisation problems in an overheated economy. The 1951 LO report developed, systematised and summarised Rehn and Meidner's critique of and alternative to Swedish economic policy in the early postwar years. In fact, increasingly critical to the social democratic economic policy, the LO leadership had already accepted the Rehn-Meidner ideas - with the exception for general sales taxes - in 1949-1950.

The R-M model was never consistently and deliberately applied in Sweden. However a period from the end of the 1950s up to 1973-1974 must be seen as the golden era of the model considering the breakthrough of active labour market policy, wages policy of solidarity and indirect taxes and the tendency towards reduced profit shares and increased public savings – important intermediate goals of the R-M model.<sup>2</sup> The

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<sup>1</sup> The term 'Rehn-Meidner model' was used in Sweden from the 1960s. e.g. by Rehn, while Meidner unpretentiously talked about 'the Rehn model'. Erik Lundberg also referred, as many other Swedish economists, to the 'Rehn model' until the 1980s when he made it synonymous with the Rehn-Meidner model. According to Rehn the notion 'the Rehn-Meidner model' was already used at the 1951 LO Congress. See Meidner (1969a:190), Lundberg (1972a: 470 and 483), (1980: 78), (1985: 17-8), Rehn (1969: 163, 170).

<sup>2</sup> In his memoirs, the Prime Minister Tage Erlander writes that he came to espouse the R-M labour market policy at a meeting with the LO leadership in March 1955. It is striking that Erlander declared in his memoirs from the mid-1970s that he was committed to the mobility-enhancing labour market

model's political breakthrough, application, performance, underlying theory and relevance have been addressed by many social scientists.<sup>3</sup> But no attempts have been made earlier to disentangle the theoretical references of the R-M model. The literature on Sweden has thus been unable to address the question as to whether the model was an innovation or a conventional wisdom in the early post-war period. Meidner and Rehn were both engaged in debates with academic economists. Moreover Meidner received his PhD in 1954 and Rehn his PhL (filosofie licentiate) in 1957. However, their occupation with current economic-policy affairs and minor interest in (or time for) abstract theorising and the history of economic ideas made Rehn and Meidner less inclined to develop the inspiration sources behind the 1951 LO report.

This paper's aim is to distinguish possible influences from contemporary economics on the R-M model. A pertinent aim is to assess the model's originality in general. The paper begins with a brief survey over Swedish economic policy before the breakthrough of the R-M model (ch. 1). It continues with an account of Rehn and Meidner's growing criticism of economic policy during the first post-war years (ch. 2) and of their policy programme (ch. 3). The paper then attempts to find a link between the Rehn-Meidner ideas and the Stockholm school (ch. 4); Rehn and Meidner can in fact be seen as representatives of the Stockholm school though less prominent in the eyes of economic scholars. The following chapters discuss the relation between the inflation theory underlying the R-M model and contemporary economics (ch. 5) and between the model's theory of structural change and the partial (static) equilibrium labour-market model, an essential component of economics at the time of the 1951 LO report (chapter 6). The paper then analyses the importance of works by Swedish Schumpeterian economists and Hans W. Singer for the R-M model (ch. 7 and 8). It then describes leading Anglo Saxon economists' view of the uniqueness of the R-M model (ch 9). All chapters on the relation between the R-M model and contemporary economics (including the Stockholm school) are points of departure for a synthesising chapter evaluating the uniqueness of the R-M policy model (ch. 10). The final chapter is a summary of the discussion about the model's origin and novelty (ch. 11).

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policy through its planning aspects. Thus Erlander opposed a market-led reallocation of economic resources through labour-market policy means. Erlander (1976: 38-41).

<sup>3</sup> See e.g. Ekdahl (2001), Lundberg (1972a), (1985), Bergström (2007), Erixon (2000), (2001), (2008a), (2008b).

## 1. Swedish economic policy before the Rehn-Meidner model

The ideas of Keynes and the Stockholm school had a strong impact on Swedish economic policy immediately after the Second World War. The post-war programme of the labour movement in 1944 (*Arbetarrörelsens efterkrigsprogram*) was a radical child of the Keynesian revolution, showing strong similarities to the 'Beveridge plan'. Both programmes recommended investment planning and regulation of capital and product markets (including some nationalisation) to maintain peak levels of employment. The Beveridge plan intended to fight inflation tendencies with the help of price controls, national wage restraint and other regulations - not through a strict economic policy endangering full employment.<sup>4</sup>

The post-war programme of the Swedish labour movement was built upon expectations of a coming depression similar to the one a few years after the First World War. But the expected post-war depression did not occur. The rapid reconstruction of Western Europe was favourable to Swedish export industries, which specialised in raw materials, semi-finished goods, and investment goods. An export boom, coupled with high domestic investments and a pent-up demand for housing and durable consumer goods, led to overheating tendencies in the Swedish economy during the second half of the 1940s and the early 1950s. Neither social democratic governments, nor the non-socialist opposition, were prepared for the problems of economic instability typical of an overheated market economy with its inherent tendency to low rates of unemployment.

Stabilisation policy in Sweden from the end of the Second World War to the end of the 1950s showed similarities to the post-war programme of the labour movement and the Beveridge plan. Social democratic governments made 'full employment' a priority, full employment being more ambitiously defined than during the 1930s. Fiscal policy (for general government) was countercyclical but mainly expansionary (Matthiesen 1971: 176-7). In fact, in January 1947, with the support of the LO leadership, a social democratic government abolished general sales taxes as a part of

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<sup>4</sup> *Arbetarrörelsens efterkrigsprogram* (1944), Beveridge (1944: 198-207). Ernst Wigforss was Minister of Finance from 1932 until the summer of 1949 and also the chairman of the committee responsible for the post-war programme of the Swedish labour movement.

its stabilisation policy. Furthermore, a policy of permanently low interest rates - which was made possible through currency regulation - led to a vast increase in liquidity in the Swedish economy.

The government revalued the krona in 1946 in order to weaken inflationary impulses from abroad. But after the revaluation, in line with the Beveridge plan, the government undertook a series of extraordinary measures to alleviate overheating and improve the trade balance. It fought domestic inflationary tendencies in 1946-1948 through profit and selective purchase taxes, price controls and regulation of the construction sector. Many measures were facilitated by regulation instruments developed during the war. In 1947, the emergence of a large current-account deficit resulted in import regulations. In the fall of 1948, the government also managed to persuade LO to accept a 'wage stop' for 1949 (in effect a prolongation of the 1948 collective agreements). An extension of the wage stop until 1950 led to increased tensions between the government and LO. These tensions culminated in September 1949 when the government devalued the *krona*. The Swedish devaluation was caused most immediately by the devaluation of the British pound. The *krona* was devalued by 30 per cent in relation to the dollar, and by 13-15 per cent in relation to the currencies of Sweden's main competitors on the export market. Soon after the devaluation (in 1950), Sweden joined the Bretton Woods agreement from 1944, which stipulated fixed exchange rates, provided the countries were not hit by major external imbalances.

The devaluation of 1949, in combination with a positive demand and price development for Swedish export products during the Korean War, led to a surplus in the current account and a profit boom for Swedish export industries 1950-1951.<sup>5</sup> Sweden also experienced a wage explosion and a relatively high rate of inflation. The government did not revalue but attempted to check inflation by regulation of the construction industry, price controls, stricter rules of inventory valuation, profit freezes and by levying duties on investments and exports. In 1952-1953, the pace of inflation was muted by a 'mini recession' and a normalisation of export prices. But

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<sup>5</sup> Export prices increased particularly for the raw materials industries representing more than half of Swedish export value during the 1940s and 1950s.

the subsequent recovery entailed overheating again in 1955-1956. For the first time during the post-war period, the Central Bank (*Riksbanken*) forcefully tightened monetary policy, at the same time as the government tried to alleviate overheating by imposing investment fees and by phasing out the use of free depreciation allowances for machinery and equipment.<sup>6</sup>

To summarise, from the end of the Second World War to the end of the 1950s Sweden, as many other Western countries, followed an economic-policy programme which might be labeled the post-war Keynesian model. Swedish fiscal policy was countercyclical, as was monetary policy from the mid 1950s, but with a tendency to expansionism. Governments tried to cushion the inflationary effects of their economic policies, and the tendencies to deficits in the current account, through regulation, including informal incomes policy, and by extraordinary fiscal measures to weaken the incentives to invest, and to moderate price and wage increases in the most overheated industries. Indirect taxes, fundamental ingredients of the R-M model, were not used as a source of government incomes, with the exception of selective purchase taxes. What is more, the role of employment offices was reduced in Sweden in the early 1950s (Wadensjö 2001: 7-8). Moreover, during the period of the Keynesian post-war model, wage gaps between industries actually increased in Swedish manufacturing and profits share of value added in this sector was high from a historical perspective.<sup>7</sup>

## 2. The Rehn-Meidner critique

Meidner and Rehn expressed a growing discontent with Swedish economic policy in the early postwar years. They opposed, in contrast to the LO leadership, the decision in 1947 to abolish general sales taxes and further, the prolongation of the ‘wage stop’ in 1949 (Ekdahl 2001: 276-84). Later Rehn claimed that he and Meidner had already outlined an alternative economic policy at a briefing for Prime Minister Tage Erlander in November 1946 (Rehn 1977a: 205). In any case, as members of a ‘querulous group’ around Erlander – which met rather regularly from Spring 1947 – Rehn and

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<sup>6</sup> The abandonment of the policy of permanently low interest rates had been delayed by the coalition government in 1951-1957 constituted by representatives of the Social Democratic Party and the Agrarian Party, *Bondeförbundet* (*Centerpartiet* from 1958).

<sup>7</sup> See Lundh (2002: 203), Erixon (1991: 281-3).

Meidner had a forum to present their objections to the government's economic policy and pinpoint their ideas of a sustainable economic policy under full employment conditions.<sup>8</sup> Furthermore, from the end of 1947, by participating in a discussion group linked to *Tiden*, the theoretical and ideological journal of the Swedish Social Democrat Party, Rehn and Meidner could elucidate their critical opinions and constructive ideas about Swedish economic and wage policy. In 1948 they started to write articles for *Tiden* and for social democratic newspapers and trade-union periodicals envisaging an alternative policy strategy.<sup>9</sup> Moreover, in *Ekonomisk Tidskrift* 1950, Rehn replied to Erik Lundberg's critique of his article in *Tiden* two years earlier.<sup>10</sup> In February 1951 Rehn presented a memorandum to the Joint Committee of the Nordic Social Democratic Labour Movement (SAMAK) on stabilisation policy (Rehn 1951).

In their works before the 1951 LO report Rehn and Meidner asserted that the measures by the social democrat government to combat inflation were ineffective. Collective wage restraint cannot prevent extensive wage drift, i.e. wage increases outside central agreements, in an overheated economy. 'Voluntary' incomes policy is a threat to trade-union ambitions to even out wage differentials. Wage-wage-price spirals will also appear in due course through claims for compensation for wage drift in central negotiations, claims that are easier to satisfy under full employment conditions.<sup>11</sup> Moreover the two LO economists conjectured that the measures to fight inflation in the post-war Keynesian model might even be harmful for economic growth. Price and investment controls hit dynamic industries and (large) firms in particular.<sup>12</sup>

Meidner focused on an avoidable political dilemma for the trade union movement in an economy with full employment. Labour scarcity will increase the opportunities for

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<sup>8</sup> Ekdahl (2001: 175-76 and 262-71), Erlander (1974: 234-40). Erlander was sceptical to the querulous group's proposal of a new economic policy. According to his diaries Erlander was even more critical to the Rehn and Meidner's ideas in 1947-1951 than displayed by his memoirs (S. Erlander 2001a, 2001b).

<sup>9</sup> See e.g. Meidner (1952 [1948], Rehn (1949), (1952a [1948]).

<sup>10</sup> See Lundberg (1952b [1950], Rehn (1952b [1950]).

<sup>11</sup> See Rehn (1952 [1948]: 38-43), Meidner (1952 [1948]: 18-20).

<sup>12</sup> Rehn (1952a [1948]: 48-9), Meidner (1952 [1948]: 21).

and the pressure on trade unions to alter income distribution in favour of labour. On the other hand, full employment will elevate pressure on the trade union movement to take responsibility for stabilisation. One aspect of this dilemma is that ‘voluntary’ incomes policy will, particularly in a situation of extensive wage drift, lead to stronger tensions between the central organisation (LO) and member unions, between trade unions, and between rank-and file members and trade-union representatives. Wage moderation in an overheated economy is therefore a threat to the cohesion and legitimacy of the labour movement. Furthermore the failure of voluntary incomes policy is a threat to central wage negotiations independent of the government, a principle enunciated in Sweden by the Saltsjöbaden Agreement between LO and SAF (the Employers’ Federation) in 1938.<sup>13</sup>

### 3. The content of the Rehn-Meidner model

In some respects the description of the R-M policy model is a complicated task. The model is based on all four goals of economic policy - full employment, price stability, high economic growth and equity. Each instrument in the model was also intended to satisfy more than one goal and to interact with the other means of the model. Furthermore Rehn and Meidner never made any attempt to formulate a formal (mathematical) model defining the parameters of their policy programme or the underpinning price, wage and productivity equations; the only exception here is the wage function in a joint article by Rehn and Bent Hansen (Hansen and Rehn 1956). However, in another respect, the account of the R-M policy model is an easy task - the core of the model is the same in the 1951 LO report as in Rehn and Meidner’s other publications. Their policy programme and view of underlying economic mechanisms in the 1980s and 1990s coincided largely with those of the 1951 LO report.<sup>14</sup>

The unvarying character of Rehn and Meidner’s approach to economic policy shall not hide, however, that there were some shifts in their priority of goals and instruments and their use of analytical concepts over time. Both before and immediately after the 1951 LO report Rehn sanctioned the early post-war policy of low interest rates by criticising the use of monetary measures in Swedish stabilisation

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<sup>13</sup> Meidner (1952 [1948], 17, 21, 24-8), see also Rehn (1949: 462-63), (1952a [1948]: 36, 48-9).

<sup>14</sup> See Rehn (1982), (1986), (1987), Meidner (1999: 92-3).

policy. He primarily referred to need for stable investment conditions in the construction sector.<sup>15</sup> But both in Rehn's SAMAK memoranda and in the 1951 LO report a restrictive monetary policy was placed almost on equal footing with a contractionary fiscal policy.<sup>16</sup> In 1955 Meidner recommended the social democrat government to fight inflation by the use of restrictive monetary policy means (Erlander 1976: 39). In later works Rehn and Meidner were largely indifferent between the two macroeconomic policy measures.<sup>17</sup> The presentation of the R-M model's macroeconomic policy below will not discriminate between the use of fiscal and monetary measures.

Rehn and Meidner had first prioritised restrictive fiscal policy measures to increase public saving at the expense of company saving; they preferred public saving for distribution-policy and economic-planning purposes. The planning, industry-policy, arguments for public saving were more obvious in Rehn and Meidner's work in the late 1940s than in the 1951 LO report and even more so than in their later works.<sup>18</sup> Labour market policy is the only 'selective' instrument of the R-M model in this paper.

In the late 1940s and early 1950s Rehn and Meidner concentrated more on macroeconomic stabilisation than on economic growth. Even the 1951 LO report paid a peripheral interest only to the effect of labour market policies on structural change, productivity and also on wage equalisation. However, the growth perspective was central in the report by the LO economists to the 1961 LO congress; Meidner was then still the head of LO research department. Moreover, as a director at the OECD

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<sup>15</sup> Rehn (1952a [1948]: 51-2), (1952b [1950]: 73-8), (1953: 288-9).

<sup>16</sup> See Rehn (1951), LO (1953 [1951]: 84, 90-1).

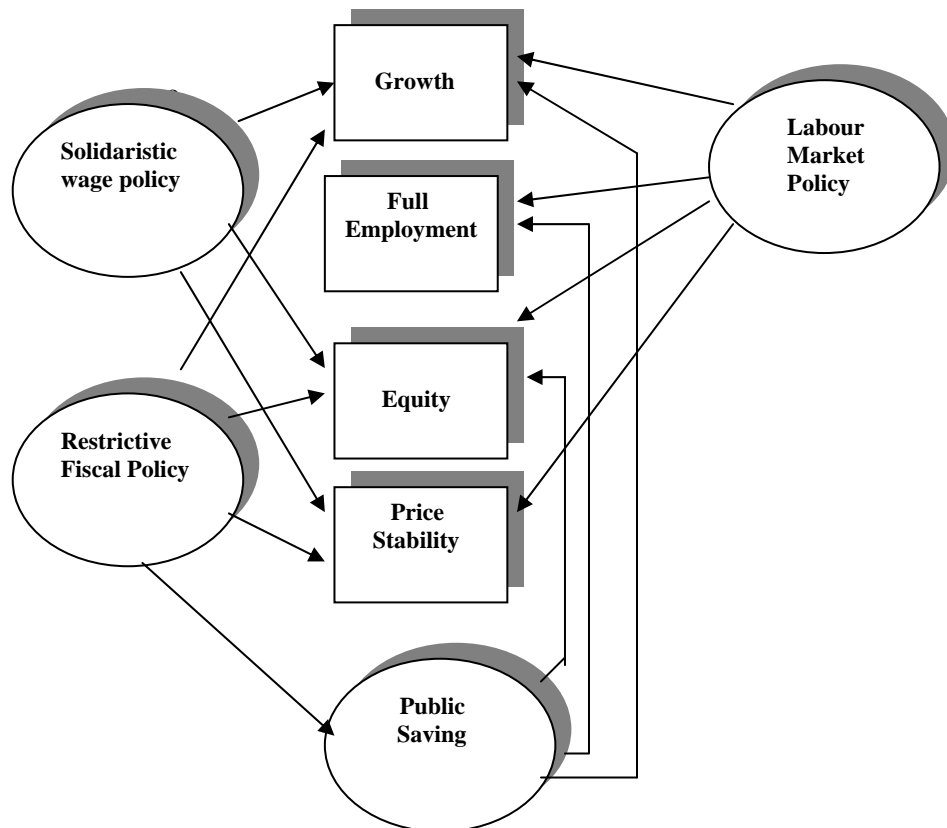
<sup>17</sup> Rehn and Meidner's neutral attitude to restrictive fiscal and monetary policy means in later works is shown by Meidner (1969a: 190-1), Rehn (1969: 164-6, 160-70), (1977a: 221-2), (1986: 74).

<sup>18</sup> Cf. Rehn (1952a [1948]: 36, 51), (1952b [1950]: 74), (Rehn (1953: 284), Meidner (1969a: 189-95). However, the return of industry-policy ambitions by LO and the social democratic government in the late 1960s was also manifested in Meidner's work (ibid.:195-8).

secretariat from 1962, Rehn focused more than earlier on labour market policy, labour mobility and market-led structural change.<sup>19</sup>

In their discussion of stabilisation policy in the 1960s Rehn and Meidner began to relate their policy programme to the notion of the Phillips curve, seeing labour market policy measures, and also profit-squeezing policies, as instruments to shift this curve downward.<sup>20</sup> In the 1970s, Rehn and Meidner made some amendments to their policy programme. Rehn came enthusiastically to advocate marginal employment subsidies to improve the trade-off between inflation and unemployment while Meidner made a proposal of collective wage-earner funds to appropriate ‘excess profits’ from the wages policy of solidarity. However, marginal employment subsidies and wage earner funds will not be considered as parts of the Rehn-Meidner policy programme (see Figure 1).

**Figure 1: The Rehn-Meidner economic and wage policy model – means and objectives**



<sup>19</sup> The 1951 report was ambiguous on the issue whether the mobility-enhancing labour market policy should be market conforming or meet certain industrial-policy ambitions. The report claimed that the transfer of labour should benefit regions, firms and industries ‘...where the prospects of expansion are favourable.’ But the report also maintained that labour should be transferred ‘...to places where it is most needed.’ (LO (1953 [1951]: 93), see also Rehn (1952a [1948]: 47).

<sup>20</sup> See Meidner (1969b), Rehn (1969: 170).

The R-M model recommends countercyclical macroeconomic policy and even significant intentional public deficits in a deep recession.<sup>21</sup> But in contrast to the post-war Keynesian model the R-M model advocates a restrictive fiscal and monetary policy in the medium term (over the business cycle). Later Rehn suggested revaluation as a deflationary measure – the R-M model was defined for an economy of fixed exchange rates.<sup>22</sup> An important objective of restrictive macroeconomic policy in combination with a ‘selective’ policy for full employment is to restrict wage drift by the associated squeeze on company profit margins. Rehn and Meidner emphasised in the 1951 LO report, and also in other works, that high profit margins are inflationary by increasing firms’ possibilities and willingness to engage in wage bidding to recruit and keep scarce labour. Wage drift at the initiative of employers will induce compensatory demands from wage earners experiencing moderate wage drift to recapture earlier relative-wage positions.<sup>23</sup> The term ‘wage drift’ was probably invented by Rehn (Nycander 2005: 148, 151).

In the R-M model active labour market policy (ALMP) is an instrument to secure both full employment and a profit decline under restrictive macroeconomic policy conditions; Rehn and Meidner assumed that full employment would keep up nominal wages and reduce profit margins by increasing the negotiating strength of labour. A profit-margin decline would not only combat inflation, Rehn and Meidner argued, but also increase labours’ share of GDP in the medium term and contribute to economic growth by putting rationalisation pressure on firms.<sup>24</sup>

When defining ALMP Rehn and Meidner referred both to regional and firm specific actions stimulating labour demand without large multiplier effects (except in a deep recession) and to measures increasing mobility between occupations, companies and regions, for example employment exchange services, vocational training and subsidies

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<sup>21</sup> Rehn (1952a [1948]: 52), (1952b [1950]: 64 and 76), (1969: 166, 180), (1982: 1-3, 8, 18, 26), LO (1953 [1951]: 91).

<sup>22</sup> See LO (1953 [1951]: 84 and 90-1), see also Rehn (1969: 164-6 and 169-70), (1977a: 223).

<sup>23</sup> Meidner (1948 [1952]: 19-29), Rehn (1952a [1948]: 32-43, 49), (1952b [1950], 74-7), (1987: 67-8), LO (1953 [1951]: 87, 91-3).

<sup>24</sup> Rehn (1949: 466), 1952 [1948]: 47, 49), (1977a: 212), LO (1953 [1951]: 94-9).

to regional mobility.<sup>25</sup> The matching and supply oriented measures were only meant to be selective in the sense that they should benefit dynamic companies, industries and regions. Mobility-enhancing ALMP measures are necessary conditions for price stability and structural change in the R-M model. They are also preconditions for the wages policy of solidarity and the avoidance of structural unemployment in the wake of this wage policy.

A policy of solidarity wages – which needs coordinated wage bargaining – states that wage earners with similar work must receive the same reward regardless of the profitability of companies and industries. Wage differentials shall reflect differences in working conditions and work content, for example differences in skill providing incentives for education.<sup>26</sup> Equal pay for similar work would put pressure on companies and industries with relatively low profit margins (low productivity) to rationalise or die freeing resources for the expansion of dynamic companies and industries.<sup>27</sup> The recommendation of structural change through fair wages (and ALMP) in the 1951 LO report was based on the hypothesis that a reallocation of labour on a ‘free’ labour market would generally require large wage differentials in the short run which are both unfair and inflationary (see ch. 6 below).

According to Rehn and Meidner wages of solidarity lead not only to equity and structural change but also to price stability. Solidarity wage policy would restrict wage drift in profitable companies and industries which could have paid higher wages.<sup>28</sup> What is more, Rehn and Meidner stressed in the 1951 LO report and in earlier works that a fair wage structure would alleviate inflationary wage-wage races. However, they made the reservation that a wages policy of solidarity cannot attain price stability (or structural change) without restrictive macroeconomic policies.<sup>29</sup>

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<sup>25</sup> Rehn (1948 [1952]: 34), LO (1953 [1951]: 92-3).

<sup>26</sup> See Rehn (1952a [1948]: 43-4), LO (1953 [1951]: 97-9).

<sup>27</sup> See Rehn (1948 [1952]: 43-4n), Meidner 1948 [1952]: 25, LO (1953 [1951]: 25-6, 34-5). The notion of ‘rationalisation’ was broad in the 1951 report including reductions of production slacks, organisational changes, labour substitution and even the adoption of new technologies (LO 1953 [1951]: 24). We will reserve the concept for the case of reductions of production slacks above.

<sup>28</sup> Rehn (1953: 280-4), (1977a: 214).

The 1951 LO report repeated Rehn and Meidner's argument that incomes policy (wage restraint and price controls) and other regulations are ineffective measures to fight inflation when full employment is achieved through Keynesianism, and that these measures might even be harmful, both for society and the trade union movement (LO 1953 [1951]: 81-7). The report also underlined an earlier argument by Rehn and Meidner that productivity growth is lower in an overheated inflationary economy e.g. due to disorganisation problems in companies and excessive labour turnover rates.<sup>30</sup> A novelty in the LO report was that Rehn and Meidner argued for constant profits shares in the long run through central wage moderation, thus after a reduction of this share in the medium term through economic-policy means. To prevent inflation and profits from falling below a critical value in the long run the trade union movement can and must take responsibility for a wage development in accordance with productivity increases (LO 1953 [1951]: 93-4, 99).

#### 4. The Rehn-Meidner model and the Stockholm school

An embryo to the R-M model can be found in Gustav Cassel's *Socialpolitik* from 1902 (see Cassel 1902: 61-105). Cassel recommended that trade unions should pursue a wages policy of solidarity in order to enhance overall productivity. Stronger pressure on inefficient firms would result in rationalisations, innovations (e.g. through the development of labour-saving technologies) and structural change (e.g. through firm concentration). Cassel also suggested that possible increases in unemployment should be met by public vocational training (apprenticeship programmes). However Cassel did not discuss the possibility of squeezing profit margins through the combination of tight fiscal and monetary policies and ALMP measures. Moreover, in *Socialpolitik*, the distinction between high average wages and wage equalisation as a source of productivity increases was not completely clear.

In the 1920s, Cassel largely abandoned his trade-union model of economic progress (Nycander 2005: 41-6). And Rehn and Meidner were probably ignorant of Cassel's

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<sup>29</sup> See Rehn (1949: 464), (1952a [1948]: 31-2, 39-44), (1952b [1950]: 74-5), (1977a: 216), LO (1953 [1951]: 89-91, 95-6, 99).

<sup>30</sup> Cf. Rehn (1948: 183), LO (1953 [1951]: 37-47, 81-2, 86-7).

arguments for solidarity wages at the time of the 1951 LO report. Instead they were formed as economists by Keynes and the Stockholm-school economists, thus by economic scholars contributing to the marginalisation of Cassel.<sup>31</sup>

State interventionism to even out business-cycle fluctuations and social engineering were guiding principles of the Stockholm school of economics and also of the R-M model. Meidner and Rehn's ideas were certainly rooted in the Stockholm-school tradition. In the 1930s they had had Gunnar Myrdal and Lundberg as teachers in economics and also participated in higher seminars led by Myrdal and Lundberg at Stockholm University (*Stockholms högskola*). During the second half of the 1930s Meidner participated in research projects led by Myrdal. Furthermore both Meidner and Rehn were employed by *Konjunkturinstitutet*, the National Institute for Economic Research (1938-1940 and 1947-1948 respectively) under the direction of Lundberg. Lundberg was also Meidner's advisor in his thesis work at *Konjunkturinstitutet* in 1950-1951. Rehn had served as a coordinator, and Myrdal as an expert, in the Post-war Committee of the Labour Movement (*Arbetarrörelsens efterkrigsråd*) responsible for the post-war programme. Rehn was therefore one of the authors of the programme under Myrdal's supervision. Later Rehn maintained that the post-war programme of the labour movement contained many ideas that then appeared in the 1951 LO report. Moreover in 1949-1950 Rehn and Lundberg debated Swedish economic and wage policy, not only in *Ekonomisk Tidskrift* but also, for example, at Stockholm University (Nycander 2005: 119-50).

Both Meidner and Rehn considered themselves as Myrdal's disciples. Rehn often expressed a spiritual affinity to Myrdal. The fathers of the 'Swedish model' inherited Myrdal's scepticism towards axiomatic-deductive theorising in economics. However, it is difficult to discern distinct contributions from Myrdal to the R-M model. Rehn's later argument that the post-war programme of the Swedish labour movement

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<sup>31</sup> It is also unlikely that Rehn and Meidner were influenced by the Swedish economist Gösta Bagge's analysis of wages policy of solidarity, or by Bagge's partial-equilibrium analysis of wages, unemployment and structural change, in his dissertation from 1917. Bagge was appointed professor in economics in 1921 at Stockholm University where Meidner and Rehn were students in the 1930s. However, in the 1930s, Bagge was neither engaged in teaching/research at Stockholm University, nor an influential economist in Sweden. In fact, between 1935 and 1944, Bagge was leader for the Swedish Conservative Party (*Högerpartiet*). Wadensjö (2005: 58).

anticipated the R-M model is far-fetched.<sup>32</sup> Moreover Myrdal's occupation with reinforcing cumulative real processes, first in business-cycle analysis and then in development studies, has no correspondence in Rehn or Meidner's work. A common opinion is that they were inspired by Myrdal's *Höga skatter och låga räntor* published in 1944. Here Myrdal argued, as later Rehn and Meidner, for a reduction of profits through higher taxes and the use of fiscal measures (and investment controls) rather than monetary measures in stabilisation policy. Myrdal's equity and industrial-policy arguments for high taxes and low interest rates accorded with Rehn and Meidner's view in the late 1940s. Rehn and Meidner also shared Myrdal's opinion that a policy of low interest rates should particularly favour construction, a prioritised sector in Sweden at that time (Myrdal 1944: 164-6). A similar conformity between Myrdal and Rehn-Meidner appeared through the former's suggestion of an overbalanced public budget if private saving (due to low interest rates) becomes too small (*ibid.*, p. 168).

But there are crucial differences between the 'Myrdal model' and the R-M model. In the early post-war period Rehn in particular challenged a regulation, industrial-policy, view of economic policy in favour of a more market-conforming approach. Furthermore, Rehn and Meidner emphasised the stabilisation-policy rather than the distribution and industrial-policy arguments for squeezing profit margins through higher taxes. Gradually Rehn and Meidner softened their critique of monetary measures in stabilisation policy to finally conceive fiscal and monetary policies as equally effective measures to combat inflation by bringing down profits in the business sector.<sup>33</sup> The difference between the Myrdal and Rehn-Meidner views is shown by their definition of which profits should be squeezed by fiscal measures. Myrdal recommended lower corporate profits after tax while Rehn and Meidner wished to reduce profits *before* taxes (and dividends). In fact, they feared that high

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<sup>32</sup> The post-war programme recommended mobility-enhancing labour market policy and solidaristic wage policy (*Arbetarrörelsens efterkrigsprogram* (1944: 12-3, 15, 74-8). But there were no arguments for these policy measures in terms of structural change and low inflation as in the R-M model. In the discussion of price stability the post-war programme focused on the risk of *deflation* in Sweden and other countries. Moreover, inflation was seen as an exceptional speculation phenomenon, not as a consequence of expansionary macroeconomic policy and full employment (*ibid.*: 47-61).

<sup>33</sup> Cf. Rehn (1952a: 51-2), Rehn (1952 [1950]: 75-6), (1951), LO (1953 [1951]: 84, 90-91), Rehn, (1969: 164-6, 169-70).

profit taxes might be inflationary. The companies would make unnecessary expenditures through the opportunity for tax allowances.<sup>34</sup>

As the main discussant of the Rehn-Meidner's ideas Lundberg forced the two LO economists to pinpoint the performance of their policy means and the underlying economic mechanisms. Rehn and Meidner shared Lundberg's fear of inflation and, therefore, his critique of abolishing general sales taxes in 1947. They were also influenced by Lundberg's and Bertil Ohlin's analysis in the late 1940s of the adverse productivity effects of an overheated economy. In fact, in his dissertation from the mid-1950s, Meidner was concerned with the negative productivity effects of excess demand conditions in labour and product markets.<sup>35</sup>

However, the influence from Lundberg on the R-M model was minor; Lundberg reacted on rather than contributed to the model. Rehn and Meidner never referred to, but rather denied in informal contacts, any influence from Lundberg. Moreover, in his analysis of the R-M model Lundberg seldom missed the opportunity to declare the originality of the 'Rehn model'.<sup>36</sup> He emphasised the logic of the model's economic-policy programme and the unique features of its underlying economic theory. Lundberg often referred to the 'Rehn-Salter model' to illuminate that the R-M model was a forerunner of the vintage approach in growth economics (cf. Salter 1960). He shed light on the inevitable consequence of the model that the downward pressure on prices as a result of a restrictive economic policy would stimulate productivity through squeezing intra-marginal profit margins. If wages for identical work are uniform (the wage policy of solidarity) low-productivity firms would then need to rationalise or perish, in which case resources for structural change would be

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<sup>34</sup> Myrdal (ibid., p. 166), LO (1953 [1951]: 148-9), Rehn (1977a: 13-4), Rehn (1987: 68).

<sup>35</sup> Lundberg and Ohlin's emphasised disorganisation problems (e.g. through high absenteeism) and excessive labour turnover rates in an overheated economy. Rehn and Meidner added the risk of more work accidents and less occupational training. See Ohlin (1949: 10-26), Lundberg (1952a: 9), (1952b [1950]: 70-1), LO (1953 [1951]: 37).

<sup>36</sup> See e.g. Lundberg (1952b [1950]: 69), (1972b: 12-3), (1980: 78). Despite his conviction that Rehn's ideas were path-breaking, Lundberg did not, as an evaluator, consider Rehn as qualified for a position as professor in economics in the early 1970s. Furthermore, in great agony, Lundberg ranked Rehn as number three only among the applicants for a position as professor in labour market policy (Lundberg 1972b: 18-9). However Rehn was ultimately awarded the professorship by the social democratic government.

liberated.<sup>37</sup> The Rehn-Salter model must assume that nominal wages are more rigid than prices; in the R-M model labour market policy sustaining full employment prevents nominal wages from being fully adjusted to shifts downward in aggregate demand. Intra-marginal profits will then decline if product markets are highly competitive.

In his presentation of the R-M model Lundberg also referred to Harvey Leibenstein's productivity theory of X-inefficiencies from the mid-1960s. Harder external pressure, mainly through stronger competition, leads under bounded rationality to rationalisation of firms and industries (Leibenstein 1966). In the Rehn-Meidner growth theory, rationalisation is stimulated by lower intra-marginal profits through deflationary macroeconomic policy under full-employment conditions or, as Rehn emphasised in the 1960s, in an international recession. Rehn also suggested in the late 1960s, perhaps under the influence of Leibenstein, that rationalisation occurs in a recession because of induced changes in the degree of competition (reducing markups).<sup>38</sup>

Lundberg's reference to the innovative Rehn-Salter model is one indication that the R-M model was not the offspring of the Stockholm school. Lundberg's critical attitude to Rehn and Meidner's policy programme is another. He mainly refuted the R-M model on political and ideological grounds – major public savings and selective economic policy programmes would cause the emergence of a bureaucratic control apparatus that in the long term posed a threat to democracy. Lundberg therefore favoured monetary instead of fiscal measures in the struggle against inflation. In economic terms Lundberg's main objection to the model was that it underestimated the importance of full employment, in contrast to high profits, for inflation and of high profits, both *ex ante* and *ex post*, for private investment. To stabilise the economy Lundberg argued (as Ohlin) for a reduction in the high policy ambitions of 2-3 per cent open unemployment. Moreover, admitting the risk of financial 'locking-

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<sup>37</sup> Lundberg (1972a: 470-4), (1972b: 12), (1985: 17-8). In the Salter-Solow vintage model all firms pay the same wage for uniform labour in competitive labour markets.

<sup>38</sup> Cf. Leibenstein (*ibid.*: 408-9 and 412-3), Rehn (1969: 151-2, 157), (1977a: 214-5).

in' effects from self-financing, Lundberg advocated deregulation and capital tax reductions to improve the functioning of the capital market, not public saving.<sup>39</sup>

A not too bold conclusion is that the R-M model was not the direct result of economic theorising and policy analysis by economists regarded as core members of the Stockholm school. Myrdal's industrial-policy perspective was present in Rehn and Meidner's early post-war publications but they had largely abandoned this perspective at the time of the 1951 LO report. Lundberg was, despite his critical view, more influenced by Rehn and Meidner than the other way round. The policy and theory of the R-M model (see the Rehn-Salter model) were the benchmark models (together with the Scandinavian inflation model) and also the Swedish contributions to post-war economics in Lundberg's two articles for leading economic journals in the 1970s and 1980. Sometimes Rehn and Meidner made the ironic remark that Lundberg, their main opponent in the domestic economic-policy debate, turned into an ambassador of the 'Swedish model' abroad (see Rehn 1980: 69). According to a more benevolent view, by his articles and speeches, Lundberg actually paved the way for the R-M model on the international scene. It is obvious, however, that we have to search outside the Stockholm school to find sources of inspiration for the R-M model.

## 5. The Rehn-Meidner theory of inflation in contemporary economics

A positive relationship between actual profit margins and nominal wage increases is basic in Rehn and Meidner's inflation theory. They emphasised in various work that high profits would induce intense wage competition for scarce labour between firms (see ch. 3). This relationship largely explains why actual profit margins are additional determinants of nominal wages in relation to labour-market conditions in the Rehn-Meidner theory.

The market-oriented character of the Rehn-Meidner inflation theory and Bent Hansen's theoretical orientation made it natural to use a marginal-productivity framework in (Hansen and Rehn 1956), focusing on marginal profits from hiring labour and on wage drift. Hansen and Rehn's wage-drift theory emphasised the

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<sup>39</sup> Lundberg (1952b [1950]: 67), (1953: 413-22), (1972: 480-5), (1985: 19).

impact of market forces. However they gave profits an independent position in relation to labour demand (with exogenous labour supply). Hansen and Rehn divided total marginal profits from hiring labour into an excess-profit and an excess-demand effect (Hansen and Rehn 1956: 93-9).

Nils Henrik Schager has claimed that the Hansen-Rehn article anticipated the Phillips-curve discussion of a relationship between labour market conditions and inflation; Phillip's article was published two years later. A similar relation was already discussed in the 1951 LO report – increasing labour strength through low unemployment would result in higher nominal wage growth. Schager maintained that the importance of market forces (labour scarcity) for wage increases was more obvious in (Hansen and Rehn 1956) than in other works by Rehn, or in the Phillips-curve literature, focusing on one determinant of unfilled vacancies only – the rate of unemployment.<sup>40</sup>

Yet Hansen and Rehn's separation between excess-profit and excess-demand effects on wage drift within a marginal-productivity framework was theoretically dubious and also impossible to test (see Erixon 2000: 24-5). Furthermore Hansen's formalisation did not do full justice to the Rehn-Meidner inflation theory in which *actual* profits have a significant role. As a consequence, the Hansen-Rehn approach could not capture the simultaneous-equation idea in the R-M model that the tendency to wage increases through a policy for full employment (leading to labour scarcity) would be mitigated by the connected fall in actual profits.

It is true that Hansen and Rehn formulated hypotheses saying that actual profit margins are important driving forces behind wage drift in and of itself (Hansen and Rehn, 1956: 89). But these hypotheses were ad hoc amendments to their marginal productivity theory and, more important, they concealed that *labour demand* is the crucial channel between actual profits and nominal wages in other works by Rehn and also in the 1951 LO report. A market-oriented explanation of the profit-wage relationship is excluded in the Hansen-Rehn model by the assumptions that capital markets are perfect and labour fully variable. A reasonable interpretation of the Rehn-

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<sup>40</sup> Schager (1988: 24-7), (1989: 651).

Meidner view of the relationship between actual profits and wage drift must focus on the importance of retained earnings and fixed (indispensable) labour. Higher profits will increase the self-financing capacity of investing firms, and also of non-investing firms to keep indispensable employees, intensifying wage bidding for a given labour supply. Another plausible interpretation of the Rehn-Meidner wage theory still has firms and their managers as the main actors. But it considers a relationship between actual profits and wages that is *not* associated with a change in labour demand – high profits will increase firms’ willingness (and also financial capacity) to pay higher wages than motivated by labour’s (marginal) productivity.<sup>41</sup>

Rehn and Meidner’s inflation theory had few correspondences in contemporary economics. The emphasis in Hansen (1951) on induced wage increases through (disequilibrium) excess-demand conditions in labour markets facilitated the collaboration between Hansen and Rehn. Both were critical to the bargaining or exogenous view of nominal wages in the Keynesian tradition (Hansen and Rehn 1956: 87-8). But the basic ideas behind the R-M model had already been shaped in the late 1940s and there are no indications that Rehn (or Meidner) ever read Hansen’s purely theoretical work on inflation. Moreover there are significant differences between Hansen (1951) and the 1951 LO report. Hansen provided no scope, as Rehn and Meidner, for the possibility that extensive wage drift would *induce* wage-wage-price spirals, especially under full employment conditions. He also toned down the possibility that wage-price races in general might generate a strong fall in the price-wage ratio leading to unemployment (see Hansen, *ibid.*: 167-8). In fact, Hansen did not doubt, as Rehn and Meidner, that full employment could be sustained by expansionary macroeconomic policy means (see Hansen, *ibid.*: 239-46).<sup>42</sup> In this

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<sup>41</sup> See Rehn (1952a: 32-43), (1957b: 231), (1969: 163, 170), (1982: 31), (1987: 65-8), LO (1953 [1951]: 92-3), Hansen and Rehn (1956: 89), Erixon (2000: 25-9), (2001: 23-4). In some works by Rehn, including the Rehn-Hansen article, this hypothesis about manager/owner psychology (X-inefficient wages) is combined with a hypothesis about wage earner psychology similar to one in the modern efficiency-wage theory – high profits will provoke employees, concerned about equity, to demand high nominal wage increases; Rehn (and Hansen) also suggested, as modern efficiency-wage theorists, that profit-maximising firms would accept these wage claims to prevent destructive labour performance. Cf. Hansen and Rehn (1956: 89-90), Rehn (1957a: 106), (1982: 2), (1986: 76-7), (1987: 65, 68, 76), Akerlof and Yellen (1990: 268-9).

<sup>42</sup> Rehn and Meidner emphasised the threats to full employment from wage-wage spirals but also that high inflation with expansionary macroeconomic policies would lead to lower productivity or call forth (together with current-account problems) either restrictive macroeconomic policy measures, threatening full employment, or regulations hampering productivity (LO 1953 [1951]: 89-91).

respect the LO report is actually more modern than Hansen (1951). Furthermore, Hansen (1951) did not embrace the distinction in Hansen and Rehn (1956) between labour scarcity and profits as determinants of nominal wages.

Neither were actual profits strategic variables in econometric models at the time of the 1951 LO report. Profits were central determinants in Jan Tinbergen's econometric models of the 1930s. But macroeconomists in the early post-war period followed Keynes in the *General Theory* by putting less weight on 'wind-fall profits'. In Lawrence Klein's econometric modelling of the US economy actual profits (current or lagged) explained consumption and investment but not wages (Klein 1950: 60-2). In the Klein-Goldberg model of the US economy developed from the early 1950s, corporate profits were only of interest for retained earnings. Moreover, in this model, retained earnings were only a determinant of personal disposable income (Evans 1969: 497-8). The nominal-wage function of the Brookings model from the 1960s contained a profitability argument. However the following Wharton model dropped this profit argument (by empirical reasons). It was not until the 1980s that profits were focused again in mainstream economics. Edmund Malinvaud mentioned political worries about negative profitability trends as his main inspiration (Malinvaud 1980: 4).

Lundberg claimed in the early 1970s that firms' profits had had a more central role in the policy debate in Sweden than in many other countries after the Second World War (Lundberg 1972: 465). The independent influence of R-M model is probably an important explanation of the Swedish concern for profits. Rehn and Meidner largely based their inflation theory, in which actual profits have a central role, on experiences of the Swedish bargaining process. Moreover, by surveying the LO-SAF negotiations and providing recommendations and statistics to LO negotiators Rehn and Meidner gained the insight that extensive wage drift in dynamic sectors would unleash compensatory central wage claims, especially when unemployment is low. In the *General Theory* Keynes had excluded market-induced wage changes but made a similar assumption of relative-wage rather than real-wage preferences. The assumption of relative-wage preferences was then largely ignored in economics. It

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reappeared in the Aukrust/EFO model (the Scandinavian inflation model) during the 1960s but not until the 1970s and 1980s in Anglo Saxon economics.<sup>43</sup>

By experience-based inductive theorising, Rehn and Meidner could discover salient wage mechanisms noticed much later in economics or still masked by the dominating efficiency-wage and bargaining(-trade union) theories. In these theories market forces are neither direct determinants of wages and employment (for example by mediating a profit-wage relation), nor guiding principles for the collective wage process. Furthermore modern efficiency-wage and bargaining theories exclude the Rehn-Meidner case of bounded rationality – firms will be more easy-going in wage negotiations when profits are high (X-inefficient wages). Rehn and Meidner's inflation theory still appears as original, especially the theory's positive relationship between actual profit margins on the one hand and labour demand and X-inefficient wages on the other and its dynamic relation between wage drift and central wage increases.

## 6. The Rehn-Meidner model and the partial equilibrium theory of structural change

Rehn often underlined that the policy of equal wages for equal jobs and of 'fair' wage differentials was compatible with conventional equilibrium theory (see Rehn 1969: 165). The practising of a wages policy of solidarity would simulate a perfect labour-market equilibrium. This idea was already hinted in the 1951 LO report (LO 1953 [1951]: 95-9). The report's analysis of structural change seems to have been governed by the partial version of the marginal productivity theory and its static analysis of exogenous changes in the composition of product demand and in (marginal) productivities between industries (and between firms). Rehn and Meidner were probably acquainted with this partial equilibrium analysis through economic textbooks from the 1930s.

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<sup>43</sup> See (Tobin 1972), Solow (1980). In the Aukrust model, higher profits will result in higher nominal wages in the wage-leading open sector by boosting firms' self-financing capacity and by weakening their resistance to high wage claims exactly as in the R-M model (Aukrust: 1977: 115). The relation between the R-M model and the Aukrust/EFO model is scrutinized in Erixon (2000: 31-4). One important difference is that productivity is given in the Aukrust/EFO model while enhanced by a profit-margin decline in the R-M model.

In both the partial marginal productivity theory and the Rehn-Meidner theory relative profitability is the driving force behind structural change. The description of wage formation in a ‘free’ labour market is also identical – higher pay in expanding sectors attracts labour from other sectors. But the incentives to labour mobility differ between the models. In the marginal productivity theory, a change in relative demand causes sector-based wage differentials to emerge. This induces wage earners to change workplace. Wage equalisation is the result of this process of adjustment, since wage earners with the same marginal productivity will receive the same pay in the new competitive equilibrium. When a wages policy of solidarity is in effect, there can be no transfer of labour because of wage differences. Instead, Rehn and Meidner relied upon a rationing mechanism. The solidarity wage policy would increase the inflow of job applicants (some firms are disfavoured) and vacancies (other firms are favoured) which tends to counterbalance the negative effects on mobility caused by weaker pay incentives. Moreover, solidaristic wage policy would increase *the firms’* and *the capital market’s* incentive to transfer resources between sectors by increasing differences in profitability, a startling difference to the partial equilibrium model. However, a sluggish labour market may hamper structural change; mobility-enhancing ALMP must therefore be used to oil the mechanism of rationing.<sup>44</sup>

According to Rehn and Meidner, large wage differentials to attain structural change, are inflationary, as being unacceptable from an equity point of view. Their preference for wages policy of solidarity was based on a conviction that wage differentials must grow large in order to create significant labour mobility because of inertia in the labour market.<sup>45</sup> In fact the Rehn-Meidner mechanism is better described by a general disequilibrium stock-flow model than by a partial (static) equilibrium model. In the latter model, wage differentials in long-run equilibrium reflect differences in marginal productivity between wage earners. In a dynamic stock-flow model wage differentials

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<sup>44</sup> Profit differentials will actually increase in the R-M model not only through wages policy of solidarity but also through ALMP facilitating dynamic firms’ recruitment of scarce labour. See LO (1953 [1951]: 90-4), Meidner (1969a: 193), Rehn (1969: 157), (1977: 214), (1980: 43-6), (1982: 44), (1987: 67).

<sup>45</sup> Rehn (1948 [1952]: 44-5), (1969: 165), (1987: 69 and 73-7), LO (1953 [1951]: 34, 95-6).

between people with different skill are disequilibrium phenomena, e.g. reflecting rigidities in the matching and learning process.

Thus there is no reason to emphasise the influence of the partial equilibrium theory for the labour market on the R-M model. In conflict with this theory, Rehn and Meidner's wages policy of solidarity limits the chances of bringing about a transfer of labour through the wage mechanism. Profit differentials will induce structural change in both the partial-equilibrium and Rehn-Meidner theory but profit differences are *reinforced* by the wage (and employment) policy of the R-M model.

## 7. The Rehn-Meidner model and the Swedish growth school

The growth theory underlying the R-M model has some similarities to Joseph Schumpeter's structural analysis. The closing down of low-productivity firms and industries due to profit pressure in the Rehn-Meidner theory is an example of 'creative destruction' (Schumpeter 1976 [1943]: 83). Erik Dahmén's dissertation in 1950 about Swedish economic development in the interwar period was inspired by Schumpeter's emphasis on the struggle between new and established firms or industries. Dahmén associated 'the negative side of the transformation (development) process', primarily as a result of innovations, with bankruptcies and structural change (Dahmén 1970 [1950]: 46, 49, 394). Moreover, the integrated business-cycle and growth analysis in works by Schumpeter and his followers has a clear correspondence in the Rehn-Meidner theory.

Many Swedish economists, including the Stockholm school economists Lundberg and Ingvar Svernilson, were influenced by Dahmén's dissertation. In fact Rehn and Meidner developed their ideas in an intellectual climate deeply affected by the Dahménian approach, a Schumpeterian analysis that was soon to be swept away by the second mathematical revolution in economics (cf. Mirowski 2002). In the 1940s Rehn and Meidner might have participated in seminars, e.g. at Stockholm university, where Dahmén presented his structural analysis. But Rehn and Meidner never referred to Dahmén's work. Informally, Rehn often expressed a negative opinion about Dahmén's dissertation and the Schumpeterian tradition in general though without any

argumentation.<sup>46</sup> Meidner explicitly referred to his Marxian and Keynesian influences but not to any work by Schumpeter or by members of the ‘Swedish growth school’, for instance Dahmén and Johan Åkerman (see Meidner 1980 and 1999).

It is difficult to discern a direct linkage between the 1951 LO report and works by the Swedish growth school. In the mid-1940s Svernilson, who later attempted to integrate a Stockholm-school and a structural-analytical perspective, presented a paper anticipating a vintage approach. The productivity of industries and countries will increase through investment embodying the latest technology (Svernilson 1944: 240-2). But Svernilson did not provide room here for a transformation approach by assuming that overall productivity will be stimulated by the elimination of firms with older technologies or by rationalisation (ibid.: 240). It was first in his magnum opus ‘Growth and Stagnation in the European Economy’ from 1954, thus after the LO report, that Svernilson posited that productivity is stimulated by structural change through profit pressure on doomed companies and industries. Furthermore, Svernilson concluded in both the 1944 and the 1954 study that high aggregate demand had enhanced productivity growth by stimulating investment in new technologies.<sup>47</sup> Svernilson’s ‘Verdoorn Law’, stating that high production growth lead to high productivity growth, is the antithesis of the Rehn-Meidner growth theory. In the latter theory, pressure on marginal production units resulting in higher productivity for the whole industry or country, is prompted by *lower* aggregate demand and profits in general.<sup>48</sup>

Neither was Dahmén’s dissertation based on any initial hypothesis that innovations and cost efficiency are enhanced by hard external pressure, for example through restrictive macroeconomic policies. Dahmén concluded in the empirical section that company productivity and structural change in Swedish manufacturing were

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<sup>46</sup> In the mid-1950s Rehn had criticized a ‘Schumpeter-Lundberg’ argument about dynamic competition – the expansion of innovative industries will be prevented by wage increases in a ‘free’ market (Rehn 1953: 280). But Rehn ignored the tendency to equal pay for identical work even in ‘free’ labour-markets, hitting all companies, while innovative industries still have, at least temporary, a competitive advantage.

<sup>47</sup> Svernilson (1954: 57).

<sup>48</sup> There are not even a hypothesis in Svernilson’s ‘Growth and Stagnation in the European Economy’ that firms’ productivity will increase through rationalisation during recessions. Productivity varies procyclically in Svernilson’s theory, not contercyclically as in the R-M model.

stimulated during the 1920s by hard international competition and deflationary monetary and exchange-rate policies (Dahmén 1970 [1950]: ch. 3). However there are no indications from the 1951 LO report (or conversations) that Rehn and Meidner had read these parts of Dahmén's dissertation. Furthermore, Dahmén did not discuss the possibility that structural change and rationalisation could increase through wage policies. Rehn and Meidner's growth theory was further outlined in the late 1940s, thus before the publication of Dahmén's thesis.

To conclude, Rehn and Meidner might have been affected in general by leading Swedish economists' strong interest in Dahmén's structural approach at the time of the 1951 LO report. However, there are no clear indications that the 1951 LO report was directly inspired by the Swedish growth school. Besides, at that time, Rehn and Meidner were mainly occupied with stabilisation and wage-policy issues, not with secular economic developments as Dahmén in his dissertation.

## 8 Hans Singer and the Rehn-Meidner model

Hans W Singer (1910-2006) was a German-born economist who received his PhD in Cambridge UK in the mid-1930s. Singer, most famous for his hypothesis about the disadvantages of trade for exporters of primary products, was strongly influenced by Schumpeter and Keynes. Singer's research on unemployment in the late 1930s had a significant impact on the Beveridge plan. However in the 1940s Singer became increasingly critical to the Beveridge view of economic policy. In an article published by *Economic Journal* in 1947 Singer shed light on the dilemma of the trade union movement and the restrictions on and negative effects of incomes policy under full employment conditions (Singer 1947). Meidner referred to Singer's article in the late 1940s (see Meidner, 1952 [1948]: 23-6) and also in an interview in the 1990s. In fact, Meidner called attention here to the decisive role of Singer's article for the 1951 LO report:

I read the economist H W Singer's article on the dilemma of trade unions in a situation of full employment in *Economic Journal* 1947. For me, this article started the whole process resulting in the report to the 1951 LO congress.

(Greider 1997: 225-6)<sup>49</sup>

By this declaration Meidner expressed his dependency on Singer but also that Rehn might have had other inspirers; Rehn never mentioned any influence from Singer.<sup>50</sup>

A close comparison confirms the similarities between Singer's article and the 1951 LO report (and the articles by Meidner and Rehn in the late 1940s). As the LO report Singer expressed doubts about the possibility, and also the rationality for trade unions and society, of coordinated wage restraint under full-employment conditions. He maintained, as Rehn and Meidner, that voluntary incomes policy would threaten the *raison d'être* and unity of the trade union movement. Singer also emphasised, exactly as Rehn and Meidner, that collective wage restraint did not rule out market-induced wage increases through wage bidding between companies for scarce (especially skilled) labour. He also stressed, as later Rehn and Meidner, that wage increases through market forces in combination with collective wage moderation would generate wage-wage spirals in due course (Singer 1947: 446-9, 453). Furthermore, Singer discussed as the 1951 LO report the possibility that the establishment of a 'rational' wage structure might control wage races. He made the qualification, reappearing in the writings of Rehn and Meidner, that central agreements about fair wages are not a sufficient condition for modest wage increases when labour is scarce. Moreover Singer's scepticism towards the possibility of establishing criteria for fair wage differentials was shared by Rehn and Meidner in the 1951 LO report.<sup>51</sup> Finally, Singer's article contained the forthcoming Rehn-Meidner argument that high profits due to wage restraint might rescue less efficient (marginal) firms and result in less managerial efficiency (Singer 1947: 440 and 444).

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<sup>49</sup> Translation from Swedish. It is noteworthy that Meidner held in 1997 that Singer's article fifty years earlier was a one hit wonder - 'I had never heard of Singer before, he got his brilliant idea and was never heard of again.' Greider, *ibid*.

<sup>50</sup> In the 1980s, Rehn made references to the *General Theory* to anchor his hostility to incomes policy (Rehn 1980: 29). However it was not clear from Rehn's reference that Keynes questioned the possibility of trade unions to directly determine employment, not their possibility to affect general nominal wage developments as in the Singer-Rehn-Meidner theory (see Keynes 1936: ch. 19).

<sup>51</sup> Cf. Singer (1947: 453-55), LO 1953 [1951]: 97-8). The 1951 LO report had expressed scepticism against a systematic job evaluation and also argued for wage equalization between different occupations in similar terms as LO did in the 1960s (see LO 1953 [1951]: 98).

The striking similarities between Singer's article and the 1951 LO report makes it essential to distinguish those parts of the LO report which have *no* correspondence in his article. Rehn and Meidner argued for central wage coordination while Singer – conspicuously critical to the Beveridge plan of national wage restraint - preferred industrial bargaining. Moreover Singer had a more tolerant attitude to inflation than Rehn and Meidner. Thus, there were no arguments in his article for a restrictive macroeconomic policy to prevent wage drift and subsequent wage-wage spirals as in the 1951 LO report. Singer's article was published in December 1947; the focus on stabilisation policy in contemporary endeavours by Rehn and Meidner to formulate a new economic policy indicates that crucial elements of their model were formed independently of Singer's article; perhaps already in the late 1946 as maintained by Rehn. Furthermore, Singer did not mention the possibility of ALMP. He also rejected the wages policy of solidarity, mainly on practical grounds, but added that structural change might be speeded up by larger wage differentials (Singer 1947: 440-1).

To conclude, Singer's article in *Economic Journal* in 1947 appears to be the most important individual inspiration source of the R-M model. However, the policy means of the model – a restrictive macroeconomic policy, a wages policy of solidarity and active labour market policy – cannot be found in Singer's article. Moreover, actual (intra-marginal) profits have no role in Singer's account of the inflation process.

## 9. Influential Anglo Saxon macroeconomists and the Rehn-Meidner model

The central position of the R-M model in Swedish economic-policy debate during the early postwar period was not matched by a similar interest on the international level. When theorising about the observed trade-off between inflation and unemployment in the 1960s prominent Anglo-Saxon economists did not refer to the R-M model. An international breakthrough for the model occurred however at a conference in the late 1960s celebrating Erik Lundberg's 60<sup>th</sup> anniversary. Among the prominent participants were not only Lundberg, Ohlin, Myrdal and Svernilson but also Edward Denison, James Duesenberry, Bent Hansen, Nicholas Kaldor, Fritz Machlup, Charles Myers, Lloyd Reynolds, Paul Samuelson and James Tobin. Paradoxically, the

conference came to focus on the Rehn-Meidner ideas, not on the thinking of Lundberg, the guest of honour and the main critic of the Swedish economic policy model.

Nicholas Kaldor held up the R-M model as an alternative to Anglo-Saxon theories about a natural rate of growth and unemployment:

Against that I find the Rehn approach – I must confess I've learned something at this conference and I shall go away a wiser man – a breath of fresh air.

(Kaldor 1969: 159)

Kaldor referred here to Rehn's hypothesis that wage pressure and a restrictive economic policy (in combination with a mobility-enhancing labour market policy) would promote productivity growth, primarily by enhancing structural change. Many of the international guests on the Lundberg conference also paid their tribute to Swedish labour market policy and declared the relevancy of this policy in the discussion of the Phillips curve.

In fact, the attention paid to the 'Rehn model' at the Lundberg conference impelled Ohlin to make the somewhat annoyed remark:

The fact that we have discussed so much the LO-Rehn model type of reasoning doesn't mean that this is the only line along which thinking is going on in Sweden. There are all kinds of lines, and I'm quite sure that the Swedish economists present here would represent quite a number of lines; there would be very considerable differences of opinion.

(Ohlin 1969: 173)

The acceptance of the novelty and also validity of the R-M model at the Lundberg conference in the late 1960s shall not obscure that other economic policy programmes and economic theories won the day during subsequent decades. The notions of rational expectations and time inconsistencies in decision-making have no correspondence in the R-M model. Moreover the new consensus in macroeconomics has not yet incorporated the Rehn-Meidner idea that productivity might be stimulated by tight economic policy and wage pressure. The victory of a new paradigm in macroeconomics explains why also Swedish economists gradually lost the interest in

the R-M model from the 1970s. Foreign economists friendly to the ‘Swedish model’ stressed the positive impact of central wage restraint, labour market policy, and also of wage compression, on Sweden’s macroeconomic performance in the 1970s and 1980s.<sup>52</sup> But they largely ignored the coherent and diversified character of the R-M policy model including the role of restrictive macroeconomic policy as an alternative to incomes policy and as a device to attain economic growth.

The international literature on the productivity decline in OECD countries in the 1970s and 1980s focused on the Verdoorn Law. Slow demand growth was said to have lessened the opportunities of exploiting economies of scale, led to fewer investments embodying technical change or resulted in negative labour-hoarding effects. In fact Rehn himself used Verdoorn-like arguments for demand stimulation when unemployment increased in OECD countries after OPEC I and II – stimuli of total demand would have increased productivity due to increasing returns to scale.<sup>53</sup> It was not until his last years that Rehn returned to his original productivity theory – high profits will reduce efforts by firm agents to become more efficient (Rehn 1993: 18-9).

Post-Keynesian economists leaned to the Verdoorn Law, not the Rehn-Meidner growth theory, when challenging the new consensus in macroeconomics. In the late 1970s, Kaldor observed a positive correlation between changes in relative unit labour costs (RULC) and changes in market shares in OECD countries. He could have explained the correlation by referring to the beneficial effects of negative driving forces in line with Rehn’s productivity theory. However Kaldor was too loyal to the post-Keynesian tradition and to Verdoorn’s Law to draw the conclusion that strong wage pressure had resulted in higher market shares by fostering structural change, efficiency and renewal. Instead Kaldor maintained that high market shares for a country had strengthened its exchange rate and, further, that high relative prices through high RULC were associated with large market shares in value terms (see Kaldor 1978).

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<sup>52</sup> See e.g. Jackman et al. (1990), Layard (1991), Nickell and Bell (1996).

<sup>53</sup> Rehn (1982: 1-5), (1986: 84-5).

Productivity theories similar to that underpinning the R-M model appeared again in Anglo-Saxon economics during the 1990s (Aghion and Howitt 1998: 239-43). One point of reference was the low productivity growth in OECD countries during the boom of the 1980s. Without knowledge about the R-M model a new generation of endogenous (neoclassical-Schumpeterian) growth economists explained a countercyclical productivity (growth) pattern by reference to the use of X-inefficiencies and the elimination of inefficient production units in recessions. The inclusion of these ideas in the ‘new growth theory’ strengthens an argument about the innovative character of the R-M model.

## 10. The uniqueness of the Rehn-Meidner policy programme

Rehn and Meidner’s theory of wages, inflation and growth had some original features. In fact, it is difficult to discuss the uniqueness of the Rehn-Meidner policy programme without referring to the originality of its underlying theory. Yet Rehn and Meidner’s policy model constituted their major contribution to economics. The survey of the economic literature above had difficulties to discern external impulses to Rehn and Meidner’s policy programme. A conspicuous fact is that two trade union economists affiliated to the Stockholm school defined a unique alternative to Keynesianism in the early postwar period. By seeing restrictive macroeconomic policy in the medium term as a crucial element in stabilisation policy Rehn and Meidner broke with the prevailing Keynesian doctrine. But a concentration on individual policy means conceals that it was the comprehensive character and interdependent relations of the R-M policy model that made it a social innovation. The means of the model were not new in themselves. A common, but misleading, conclusion in the literature on the ‘Swedish model’ is that Rehn and Meidner invented the wages policy of solidarity and ALMP. The policy of solidarity had been suggested not only by Cassel at the turn of the century but also by LO in the mid 1930s. In fact SAF had already introduced wages of solidarity in the 1920s - expanding companies were not allowed by SAF to attract scarce labour by wage competition (Faxén 1989). Neither was labour market policy a new phenomenon in Sweden nor in other countries at the time of the 1951 LO report. Public employment offices had existed in Sweden since the early 20<sup>th</sup> century (Wadensjö 2001: 4). Furthermore, the social democrat government and also the liberal party (*Folkpartiet*), led by Ohlin, supported the expansion of active labour

market policy immediately after the Second World War. A coordinating government agency – the National Labour Market Board (AMS) – was already established in 1948.<sup>54</sup>

First the R-M model was unique through its *combination of goals and means* – the model combined an active labour market policy and a wages policy of solidarity with a restrictive macroeconomic policy to attain all four goals of postwar economic policy, full employment, price stability, growth and equity. The model had also a fifth objective – to advance the position of labour, both individually and collectively. Individual wage earners' would attain 'security by wings' by full employment (increasing also the strength of organized labour) and flexible labour markets (Rehn 1977b: 125-6). One aspect of the R-M model's originality was the combination of non-market (regulating) and market-conforming measures. The model was market conforming by its emphasis on supply and matching oriented ALMP, restrictive general economic policy, anticipation of a long run labour-market equilibrium through wages policy of solidarity and exclusion of incomes policy (price controls and wage restraint). The R-M model was *not* market conforming through its high ambitions in employment policy, recommendations of wage coordination to achieve wages of solidarity, priority of public saving and also resistance towards wage flexibility to achieve full employment; in fact ALMP measures for full employment was meant to reinforce downward wage rigidity in the economy.

Second, the R-M model was unique through its *functional relationships*. Each instrument had more than one goal. For example, ALMP should satisfy all for goals of economic policy (and also increase labour strength). The diverse character of each instrument is an important explanation of the model's application in Sweden. Arguments about price stability and structural change yielded a strong alibi for AMLP and a wages policy of solidarity.<sup>55</sup> Moreover, the satisfaction of several targets by the

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<sup>54</sup> The qualification must be made, however, that the LO definition of a wages policy of solidarity was unclear in the 1930s and early 1940s according to Meidner (Meidner 1974: 11-4). Furthermore, Rehn and Meidner advocated extensive labour market policy programmes also in good times thus that the policy's counter-cyclical pattern should be weakened (Meidner 1969: 191-2). Moreover, Rehn maintained that the *extent* of mobility-enhancing labour-market policy measures in the R-M model was an innovation (Rehn 1977a: 207, 225).

<sup>55</sup> There were many examples in the 1960s of Swedish union representatives on the industry and local levels accepting the disappearance of jobs in stagnating low-wage industries (see textile and clothing

same means implies that the R-M model is not hit by the Hansen-Tinbergen rules for policy consistency – the number of instruments (three in the R-M model) must be at least as many as the number of targets (at least four in the R-M model).<sup>56</sup> Another unique feature of the functional relationships in the R-M model is that the instruments interact thus, each mean is a necessary condition for the efficiency of other means. For example, to attain price stability, high growth and fair wages, a restrictive macroeconomic policy and a wages policy of solidarity must be supported by AMLP measures aimed at speeding up labour mobility.

The comprehensive and cohesive character of the Rehn-Meidner policy programme makes it distinct from most other macroeconomic models' defining a fewer number of economic-policy goals, one instrument for every goal and additional instead of interacting functional relationships. The formalisation of the R-M model was prevented, however, not only by Rehn and Meidner's weak interest in participating in academic discourses but also by the complex and dynamic nature of their economic theory.

## 11. Conclusions

A Swedish economic and wage policy programme was formed by two trade-union economists, Gösta Rehn and Rudolf Meidner, in the early post-war period. Rehn and Meidner were certainly influenced by the *Zeitgeist* of the Keynesian revolution and the industrial-policy and planning ambitions of the Swedish labour movement. Furthermore, Meidner, and perhaps Rehn as well, was influenced by Hans Singer's analysis of trade-union dilemmas and the limitations of incomes policy in an economy approaching full employment. Rehn and Meidner were probably also inspired by Singer's analysis of productivity stimulus through wage pressure. All these influences shall not hide, however, the independency and originality of the R-M model where its underlying economic theory is concerned. The model's positive relationship between actual profits and wages had no correspondence even in Singer's work. And Rehn and Meidner's explanation of the underlying mechanism is still of interest. However Rehn

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industry in particular) referring to the need for labour mobility and structural change. See Meidner (1974: 67), Rehn (1977a: 217-8), (1980: 64).

<sup>56</sup> See Tinbergen (1956: 55-6).

and Meidner's main contribution to economics was their comprehensive and coherent policy model. The instruments were market-conforming alternatives to the post-war Keynesian stabilisation-policy (regulation) model but still centralist and interventionist and also aimed at increasing economic growth, equity and labour strength. The R-M model was primarily based on intuitive, experience-based, theorising by Rehn and Meidner in their profession as trade union economists, not on deductive economic modeling or even economic research in a conventional sense. In fact, at the time of the 1951 LO report, Rehn and Meidner had limited knowledge of theoretical developments and econometric studies in economics.

Lundberg, and also Meidner, emphasised Rehn's creative personality. By giving prominence to Rehn's innovative role in the formation of the R-M model Meidner hardly expressed any false modesty. It was Rehn who added a restrictive macroeconomic policy to their programme, a radical step in the age of the Keynesian revolution, and 'put the pieces together' (Meidner 2003: 215-6). However, future research must distinguish more carefully the separate and joint contributions by Rehn and Meidner to a policy programme which was given their names. Deeper research must also distinguish the contributions by other persons at the LO's research department to the R-M policy model or to the arguments for its logic and complexity. However it is unlikely that this research will dispute the importance of Rehn, and also of Meidner, for the birth of a unique Swedish model for macroeconomic stability, growth, equity and labour strength, a policy programme that was partially applied in Sweden in the post-war period.

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