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# PROFILING SYSTEMS FOR EFFECTIVE LABOUR MARKET INTEGRATION

# Use of profiling for resource allocation, action planning and matching

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# CONTENTS

## TABLES

## FIGURES

# EXECUTIVE SUMMARY

Profiling is in many European countries part of a customized "expert system". These service delivery systems are characterized by 1) profiling as a quantitative (statistical forecasts) or qualitative (structured interviews, capability tests) diagnostic tool to identify clients' risks 2) customer differentiation for giving different customers different access to employment services according to their needs with the aim to target resources. The idea behind customized or personalized services is that individuals differ in their employability and that such employability declines as the duration of non-employment increases. However, in all European Public Employment Services (PES), it's the caseworker who makes the final decision on the services to be provided. This stands in contrast to the US profiling system where "hard" (statistical) profiling is compulsory for caseworkers and where the results of statistical profiling are the only factor that determines whether a client has to be transferred to further re-employment support.

A review of experiences with profiling in seven countries (Australia, Germany, Denmark, France, the Netherlands, Sweden and the US) show no clear trend, but rather diverging developments in relation to the intensity of using profiling and early intervention strategies. The degree of customer differentiation, as well as the degree of coordination between customer segments and integration measures is very dissimilar across countries. Only few PES (e.g. the German BA and the French Pole d'Emploi) follow a coherent and integrated strategy based on profiling, client segmentation and targeted resource allocation.

Compared to the situation in the mid-2000s, dynamic profiling, i.e. the regular follow-up of the labour market prospects of clients is nowadays mainstream in most countries. Beyond the aim of predicting client needs, there are additional goals linked to profiling and streaming employment services. In countries like Denmark or Germany where UI and non-insured welfare clients are administered now by a single organisation, the aim of providing a common framework for different customer groups has a high priority.

Although there is widespread agreement among researchers and policy makers that prevention and early intervention is the best way of reducing the negative psychological, social and labour market effects of unemployment, only few impact studies have tried to quantify the possible efficiency gains of profiling and early intervention so far. Moreover, there is a general evidence gap in all countries with respect to the impact of different service delivery systems on on/off-flow rates from unemployment or benefit receipt.

Based on the country review, a number of lessons for implementation, i.e. implications for caseworkers and PES managers to further develop profiling and targeting systems can be highlighted. How to balance intensive support with a self-help strategy is a crucial challenge for the years to come. The need for differentiation depends very much on the diversity of client groups the PES is in charge of. However, against the background of stretched budgets, the proof of the cost-

effectiveness of labour market programmes and early intervention strategies will be a critical factor.

# 1. INTRODUCTION

The term "profiling" is commonly identified with the prediction of who is at risk of becoming long-term unemployed. We will use "profiling" in a broader sense to describe a general (quantitative or qualitative) method of allocating employment services to clients in which a systematic process based upon client characteristics is used to identify the most appropriate provision of services for any particular client. Such a wide definition allows for including different methods to assess strengths and weakness and identify jobseekers' chances of finding work in order to design corresponding intervention strategies. The wide definition also allows for considering a wider range of country experiences of how individual profiles are assessed and related to types of individual action plans by selecting jobseekers according to different groups (client segmentation), and to different services and interventions[1].

Profiling is usually designed to filter out various easy- and hard-to-place categories of jobseekers who are offered services of different intensity. Prediction accuracy is therefore an important element in the efficiency of a profiling system, since low accuracy can lead to a considerable waste of resources. Profiling allows also for an early identification of clients' needs trying to avoid inefficiencies ("deadweight") that stem from working on crude target groups (such as youth, disabled or migrants). As the probability of finding a job decreases with unemployment duration, a rapid intervention is deemed to reduce the detrimental effects of (long-term) unemployment, as well as deadweight costs by identifying clients who normally find work without (or with minimal) help from PES.

Different profiling methods and tools have the common objective of a customised approach which is in contrast to other allocation mechanisms of employment services like broad eligibility rules or purely subjective assessments by employment advisers. Research has shown that using diagnostic tools such as statistical profiling models can objectify the assignment process. There is some evidence that caseworkers are less effective without systematic support instruments (Lechner and Smith 2005). Moreover, if case workers rely only on their own experience, they tend to use ad-hoc criteria for their decisions, which could lead to discrimination (Bimrose et al. 2007).

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[1] As already highlighted in the first European conference on profiling in 2005, it is not sufficient to call profiling just a diagnosis tool for predicting the risk of long-term unemployment (LTU). Profiling has to be linked to determine the adequate service, to deploy resources and programmes efficiently and even to select the right type of profiles for automated matching. Profiling has to be seen as a combination of a customized approach and process-oriented organization of PES service delivery (http://doku.iab.de/veranstaltungen/2005/profiling2005_Report_English.pdf).

## 2. USE OF PROFILING FOR ACTION PLANNING, MATCHING AND RESOURCE ALLOCATION

### 2.1 Policy background

The role, purpose and tools of profiling depend largely on the customer groups the PES have to deal with, which in turn depends on the PES's legal mandate and social security system. Recent benefit and activation reforms in many European countries aim to activate broader non-employed (unemployed and inactive) working-age groups in order to increase the use of unutilised labour supply. The inclusion of so-called "inactive" persons relying on different types of income support (social assistance, disability or incapacity benefits etc.) into mainstream employment services (e.g. in the UK, France, Austria), as well as the organisational merging of PES with municipal jobcentres (e.g. in Denmark and Germany) requires further adjustments of profiling and "customer segmentation" models.

However, in the years to come, serious financial constraints for early intervention and tailor-made services are arising from increasing pressure on budgetary resources for active labour market policy. In Germany, the government decided recently to save 11.5 billion € in expenditure for labour market policy by 2015. In the Netherlands, the UWV budget will be halved, implying that there is no money left for active labour market measures. In Finland, PES staff have to be reduced by 15% by 2015. Hence, fewer resources imply less active measures, less PES staff, as well as more pressure to improve efficiency of employment services.

### 2.2 Profiling based on statistical models and/or qualitative assessment

As a diagnostic tool, statistical profiling tries to identify clients' "needs" in terms of risk (e.g. risk of remaining unemployed/becoming long-term unemployed, exhausting benefit, probability of finding employment within the next three, six months, etc.). To this end, the target variable (risk of LTU, probability of job entry) is related to client characteristics (gender, age, education, occupation, work experience, program participation and record on public assistance, country of birth, etc.). In order to make a good prediction possible, a good model must not only contain all the "hard" factors determining, for example unemployment duration, but also the "soft" factors such as motivational aspects, health or social networks, as well as data on the demand side, i.e. the regional unemployment rate.

The availability of (longitudinal administrative) data is crucial for the quality of the model and its accuracy in predicting the individual risk of long-term unemployment or the chances to find employment. The estimated relationships are used to "score" clients, e.g. by their distance from the labour market or by the degree of autonomy in the job search. In a further step, the results are used to determine access to different types of services.

The idea of using statistical prediction for decision-making in employment services was developed during the 1990s in Australia and the United States where fully operational profiling systems have been introduced. This has prompted further

interest from European countries in the potential of such systems to provide a basis for allocating or targeting employment services.

## 2.3 Targeting employment services based on profiling

Since resources are finite, a PES will usually have to ration its services in some way. The way used in some countries, for example in the UK, is to make customers queue for services according to how long they have been unemployed. Since most European PES aim to provide customized support, they commonly seek ways to target their services on those in greatest need by using methods of customer segmentation. Thus, the outcomes of the profiling process are used to identify who is in need of more intensive help. Hence, profiling is just the first step in a more comprehensive "expert system". In a second step, customers with similar profiles are clustered in segments with similar needs and similar assistance requirements. The customer groups to which jobseekers are assigned determines generally what specific reintegration services (training, job search assistance, work placements etc.) are offered. "Job ready" or "market clients" i.e. those with good employment prospects are to receive only limited assistance, as they will normally find work on their own. Consequently, more resources could be dedicated to disadvantaged jobseekers who have a greater distance from the labour market, including measures to address non-skill-related barriers like confidence-building ("social activation").

An alternative way to allocate individuals to services and interventions is the use of statistically assisted targeting aimed at increasing the effectiveness of services. As different programmes have different impacts, it has been challenging for PES to accurately identify which services clients should receive for the maximum impact on their individual chances of entering work. Hence, the purpose of such targeting models is to identify those programmes and services that proved to be of maximum efficiency in the past for each specific combination of characteristics. The system computes on this basis a special recommendation about which measure/intervention is expected to work best for a specific client. Based on IT tools, caseworkers are able to choose the optimal strategy for each individual.

Several countries have developed targeting systems in close cooperation with researchers: Canada (SOMS=Service and Outcome Measurement System), Switzerland (SAPS=Statistically Assisted Programme Selection), Germany (TrEffeR=Treatment Effect and Prediction) and some US states like Georgia or Kansas (FDSS=Frontline Decision Support System) and partially also Denmark with the Job Barometer.

## 2.4 Country differences and key examples

In the following section, we analyze the use and purpose of profiling approaches in Denmark, Germany, France, the Netherlands and Sweden, and compare these European approaches with those of more experienced profiling countries like Australia and United States. Table 1 summarizes the results of the review with respect to the (1) type of profiling method used, (2) main purpose of profiling, (3) timing and regular revision of profiling; (4) link to resource allocation and (5) link of profiling outcomes to targeted assistance (action planning).

**Table 1:      Use and purpose of profiling in selected countries**

| Country | Type | Purpose | Timing/ regular revision | Linked to action planning | Linked to resource allocation |
|---|---|---|---|---|---|
| **AUS** | • JSCI (= Jobseeker Classification Instrument) Statistical model based on client survey + professional judgment | • Diagnosis "Prediction of LTU risk"<br>• Risk scores Sorting into 4 streams | • Registration for benefits<br>• Repeated at certain intervals | • Referral of jobseeker to stream services | • Basis for funding levels for private providers |
| **DE** | • IT-based questionnaire /potential analysis<br>• First phase within "Four-Phase Integration Model" (4PM) | • Diagnosis "LM distance"<br>• Customer streaming; 6 client profiles<br>• Use of profiles for automatic matching<br>• Common framework for insured and non-insured jobseekers | • Initial face-to-face interview<br>• Regular follow-up<br>• Revision of integration agreements every 6 months | • Service strategies according to client needs | • Frequency of client contacts for UB II clients |
| **DK** | • Caseworker judgement | • Diagnosis "Job search capacity"<br>• Segmentation: 3 match groups<br>• Common framework for insured and non-insured jobseekers | • Initial face-to-face interview<br>• Follow up every 3rd month/ every 4th week for sickness benefit clients | • No direct link<br>• Statutory activation according to length of UE and age | • No relation |
| **FR** | • Use of statistical profiling + caseworker expertise | • Diagnosis "Distance to LM/ LTU risk"<br>• Segmentation: 3 client groups<br>• PPAE for UI and RSA clients | • Initial interview Regular follow up<br>• Interview frequency: every month (target) | • Caseworker chooses services according to the diagnostic | N° and frequency of interview according to client group |

| | | | | | |
|---|---|---|---|---|---|
| **NL** | • Use of different qualitative tools (e.g. chance-explorer or competencies test ) for insured UI and disability clients (UWV) | • Diagnosis: "Job search capacity" | • Intake interview<br>• Qualified intake after 3 months<br>• Regular review of integration agreement | • No direct link<br>• Service provision intensifies according to length of UE | • No |
| **SE** | • Pilot project for insured jobseekers<br>• Statistical profiling based on longitudinal administrative data + caseworker judgment | • Diagnosis "Prediction of LTU risk (LTU = 6 months)"<br>• Customer segmentation: 4 risk groups<br>• Better targeting of services<br>• Equal treatment | • Initial face-to- face interview | • Linking services to client (risk) groups is intended | • Planned to be used for resource allocation process in 2012 and as basis for funding of private providers |
| **USA** | • Statistical profiling for UI claimants based on administrative data | • Diagnosis "Benefit exhaustion"<br>• Risk scores | • Registration for benefits | • No | • Results determine access to any form of re-employment services |

### *Opposing developments across EU countries*

In relation to the use of statistical profiling methods, we observe rather opposing developments across European countries. On the one hand, there are countries like Denmark, Germany or the Netherlands which experimented with statistical profiling models already in the early and mid-2000s, but which nowadays use more qualitative assessment tools ("soft profiling") for the identification of client needs. On the other hand, there are countries that have only recently implemented statistical profiling tools (e.g. Finland, Ireland). A third group of countries is currently piloting the use of statistical profiling (e.g. Sweden).

In all European countries where statistical profiling is in use, this is not the only diagnosis instrument. It's used in conjunction with other assessment methods such as structured interviews or checklists to support caseworkers in their work with clients. It's usually the caseworker who makes the final assessment. This is a key difference to the US where "hard" profiling is compulsory for case workers and where the results of statistical profiling are the only factor that determines whether a client has to be transferred to further support.

There is also a variety of variables and factors included in statistical profiling models which seem to depend very much on the availability of administrative data. All models contain variables on socio-economic characteristics, past history of employment, type of benefit allowance and characteristics of jobs wanted, although these vary in number between the different models. Some also contain demand-side factors like tightness of the regional labour market. "Soft skills" which are deemed to be closely associated with employment outcomes are usually not included in the prediction models. Only a few countries follow a more systematic approach in including soft factors in their assessment exercise. For example, the Australian national PES authority Centrelink developed an attitudinal segmentation model that allows the classification of job seekers into eight segments representing different levels of motivation and openness[2]. Another example is Germany, where profiling under the Four-Phases Model (4PM) includes a software-guided assessment of clients' potential underpinned by databases on personal and social skills.

The Dutch UWV WERKbedrijf also uses assessment tools like checklists, a web-based "chance-explorer" providing information on vacancies, applicants or promising search channels and/or competencies tests focussing on jobseekers' strengths. However, the Dutch approach is not "profiling" per se. The use of the instruments is optional and the interpretation of the results is the expertise of the individual professional. The mentioned tools are used to inform and frame discussions between jobseeker and caseworkers, and not to segment customers according to their needs. There has been a shift from early intervention to activation during the job search. The customer journey for UWV clients is now divided into distinct stages dependent on the length of time a jobseeker has been unemployed. Levels of intervention and support intensify over time at 3, 6 and 12 month's unemployment.

**Figure 1:      The Dutch WERKformule**
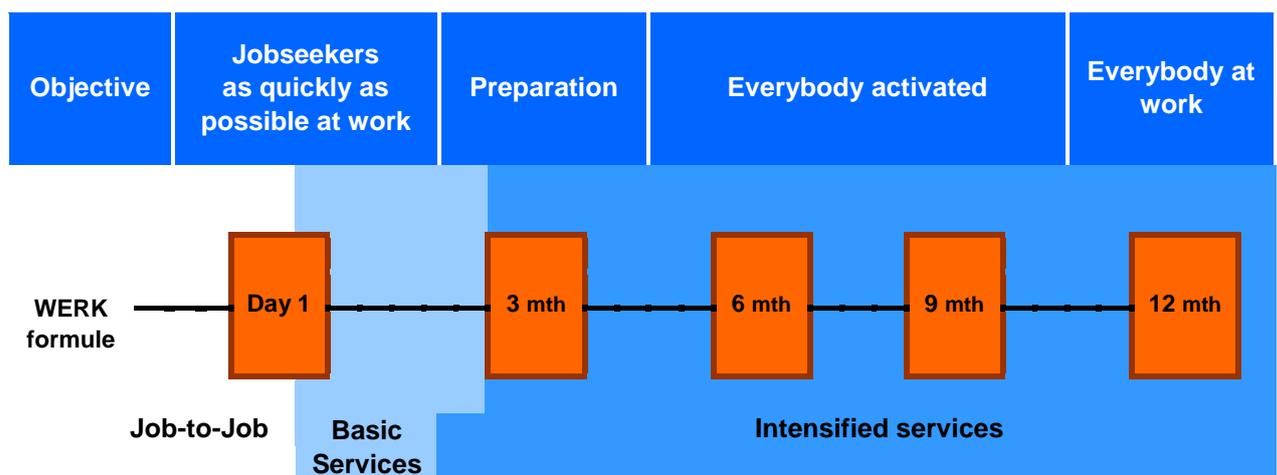


*Source: Keulen 2009*

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[2] Job seekers were provided with a series of 21 statements designed to differentiate the level of motivation and openness in relation to job search and asked to rate their level of agreement using a 10 point scale. The attitudinal segment is used in regular intervals by Job Network members (private providers) as part of the profiling exercise.

The prediction of a jobseeker's risk of becoming long-term unemployed is an important profiling criteria, but not the only one by far. "Distance from the labour market", "degree of autonomy in job search" or "probable duration of job search" are also prediction criteria being used as the basis to segment clients. In countries where different groups of benefit claimants are now administered by a single organisation, like in Denmark or Germany, the development of a common framework enhancing the use of a common language to guarantee equal treatment in the provision of employment services has been highlighted as an important objective of user profiling and client segmentation.

***Varieties of client segmentation but common practice of dynamic profiling***
However, there are obvious differences in the degree of client differentiation. Whereas the German PES currently applies six instead of four client profiles (see figure 2) in order to better address complex profiles, the Danish Labour Market Authority reduced the number of "match" categories from five to three although there are more heterogeneous client groups to be served in the municipal jobcentres since 2009.

**Figure 2:    Jobseeker profiles in Germany**

| Client profiles | Market profile | Activation profile | Promotion profile | Develop-ment profile | Stabilisation profile | Support profile |
|---|---|---|---|---|---|---|
| **Exit into** | regular LM $\leq$ 6 months | regular LM $\leq$ 6 months | regular LM $\leq$ 12 months | regular LM >12 months | improve employability >12 months | improve employability >12 months |
| **Prognosis** | **Close to the labour market** | | | **Complex profiles** | | |

*Source: BA*

In most countries under review, the assessment exercise is carried out during the initial face-to-face interview with the caseworker. In Australia and the US, clients are already profiled when they register for benefits. As rapid activation seems to have high priority in all countries, emphasis is put on a relatively short interval between registration and first interview. In most countries, the first interview must be held between the first 3 to 4 weeks after registration. In Germany and the Netherlands, jobseekers have to register even before entering unemployment, right after they receive notice of dismissal. In all countries, the first interview is used to conclude a mutual integration agreement.

In regular follow-up interviews, the labour market prospects of clients are re-judged (known as dynamic profiling) and the adequacy of client activities and support are checked. The frequency of the follow-up interviews is statutory in some countries (e.g. in Denmark every 3 months) or determined by PES regulations. The revision of profiles in the Netherlands is 3, 6 and 9 months after the onset of unemployment. In Germany, profiles have to be revised every 6 months, and in France, they should be revised even every month.

*Weak direct links to resource allocation*

Surprisingly, resource allocation seems to be only weakly related to the frequency of client contact according to different profiles in most countries. The German PES just gives recommendations for a minimal frequency for different profiles among UB II clients. The distribution of client profiles is only a minor determinant within the budget planning process of the Bundesagentur für Arbeit (BA). Other factors like the regional unemployment rate play a major role in the "budget dialogue" talks between local and central level. In France, the frequency of interviews is more directly related to the different segments of clients, but in the other European countries under review, there are no quotas at all for financial and staff requirements based on customer profiles. It's rather the workload (client to caseworker ratio) and the average time allocated to an interview which determine staff resources. In Denmark, for example, there is a maximum amount for the cost of active measures per full-time activated person that the government will refund to the municipalities.

In contrast to European countries, profiling outcomes in Australia are decisive for the allocation of resources to stream services (see figure 3). Jobseekers who score 'at risk' on JSCI are referred to Job Services Australia (network of service providers). Centrelink pays provider fees differentiated by JSCI score. In the United States, profiling is first and foremost a tool for the allocation of re-employment resources. Only those with a high risk score of benefit exhaustion are eligible for employment services.

**Figure 3:     Stream Services in Australia (Source: DEEWR 2009)**

| CENTRELINK REGISTRATION |
| --- |

| JOB SEEKER CLASSIFICATION INSTRUMENT /JOB CAPACITY ASSESSMENT |
| --- |

| JOB SERVICES AUSTRALIA PROVIDER |
| --- |
| EMPLOYMENT PATHWAY PLAN |
| PRODUCTIVITY PLACES PROGRAM |

| WORK READY | DISADVANTAGED JOB SEEKERS | | |
| --- | --- | --- | --- |
| STREAM 1 | STREAM 2 | STREAM 3 | STREAM 4 |
| JSCI score 0-19 | JSCI score 20-28 | JSCI score ≥ 29 | JCA |
| 53% of new job seekers | 22% of new job seekers | 10% of new job seekers | 15% of new job seekers |
| $11 in Employment Pathway Fund | $550 in Employment Pathway Fund | $1100 in Employment Pathway Fund | Up to $1650 in Employment Pathway Fund |
| $385-$440 in Job Placement fees | $385-$2800 in Job Placement fees | $385-$6600 in Job Placement fees | $385-$6600 in Job Placement fees |
| Up to $781 in service fees | Up to $781 in service fees | Up to $781 in service fees | Up to $781 in service fees |
| Skills assessed after 3 mnths | | | |
| Stream service review after 12 months | | | |

| WORK EXPERIENCE |
| --- |
| 45% of job seekers in this phase expected to commence either Work for the Dole or Green Corps |
| At least bi-monthly contact with employment service provider |
| $500 in the Employment Pathway Fund |
| Up to $722 in service fees (includes $330 one-off work experience service fees plus up to $392 in service fees for the year) |

## *Dissimilar streaming policies*

In order to fully contribute to making business processes more efficient, profiling should be part of a general streaming strategy. While profiling constitutes the basis for customized services, the streaming policy ensures the correct sequence of interventions and helps PES to manage customer flows.

However, the degree of customer differentiation, as well as the intensity of linking customer segments to a coherent streaming strategy is very dissimilar across countries. In Denmark, the three match groups constitute just a rough indication for the further matching process. Caseworkers can in principle choose services and interventions from the whole range of ALMP offers, but have to follow the age-dependent mandatory activation requirements[3]. In the Netherlands, the local jobcentres (WERKpleinen) do not sort clients into different groups but follow a staged process. Levels of intervention and support for all jobseekers intensify over time. At the moment, basic services are offered in the first three months, they are

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[3] The unemployed aged under 30 are entitled and obliged to participate in activation at the latest after 13 weeks of unemployment. The offer will last for 6 consecutive months. The unemployed under 25 years without vocational training are required to take an ordinary education and the unemployed older than 30 have to participate in mandatory activation measures after no more than 9 months; for those older than 60 after 6 months.

intensified after 3 and 6 months. After 12 months of unemployment, jobseekers can be referred to private providers for reintegration. Following the most recent budget cuts, in the near future, only online services will be available in the first three months of unemployment followed by e-coaching services (month 3-12) and mandatory activation after 12 months.

We observe in Germany and France a systematic integration approach relating customer profiles (or needs) to a more (DE) or less (FR) standardized action planning. Jobseekers in France, as well as in Germany go through four phases:

> 1) IT-based profiling concentrates on analyzing the strengths and potential of clients combining a variety of variables regarding qualifications, experience, hard and soft data (DE). Statistical profiling in FR is combined with an occupation component,

> 2) goal definition (DE) or definition of "employment trajectory" (FR) according to the jobseeker's profile,

> 3) selection of appropriate measures by the caseworker to be taken (FR) or software guided (DE) service strategies to be followed, and finally

> 4) the conclusion of a mutually agreed personalized action plan.

Thus, in both countries, nature, timing and level of intervention are strongly dependent on the profile of the individual (and his particular needs). The German VerBIS software serves as a tool to help caseworkers to structure time, reminding them of the steps they need to take and prompting action at certain points. Thus, it helpsto standardise, monitor and implicitly steer service delivery.

*Use of client profiles for automatic matching*

In the past, the PES in most countries have been mainly responsible for insurance clients which usually have a higher potential for self-help,than means-tested benefit recipients. Countries like Belgium (VDAB), Sweden or Finland have invested heavily in the development of Internet tools to improve the matching based on "profiles". However, most countries have not exploited systematically potential synergy effects using "profiles" simultaneously for both automatic matching and the differentiation of client groups. An exception to this is Germany where the strength analysis within the 4PM profiling exercise also constitutes the basis for automatic matching in the job exchange (arbeitsagentur/jobboerse.de). The Web-based tool VerBIS links information on regional labour market opportunities to client "profiles" based on competencies, allowing for the bi-directional matching of jobseeker and vacancy profiles.

# 3. HOW EFFECTIVE IS PROFILING, TARGETING AND EARLY INTERVENTION?

The perception of caseworkers of the helpfulness of the new assessment tool has been evaluated recently in the German case. The results of a survey among caseworkers and jobcentre managers on the practicality and impact of the German 4PM on their daily work with clients are rather mixed. Caseworkers do recognize the greater transparency, i.e. a better understanding of the steps to follow in the first interview. Validity and plausibility of profiles and applied service strategies have generally increased. Another benefit is seen in the fact that VerBIS makes it easier to share cases as all data and steps are standardised and all the relevant information is stored. On the other side, caseworkers complain about the increased documentation workload. Furthermore, they feel insecure with respect to data protection, and especially for the caseworkers dealing with UB II clients, it means that the model is not flexible enough to deal with complex cases[4]. Clients, in contrast, seem happier with the new service delivery model than caseworkers. Customer satisfaction scores have increased since the introduction of 4PM. They are especially satisfied with the quality of the integration agreements.

Unfortunately, similar survey results do not exist – or at least are not available - for other countries. In fact, it's generally acknowledged that profiling provides a systematic framework for caseworkers, but there is no reliable information if caseworkers really use them adequately. In most countries caseworkers are entitled to make a different decision if there are good reasons to do so. Thus, regular quality assurance is important for the accurate and consistent application of profiling and segmentation tools.

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[4] There are slight differences in the survey results of caseworkers in the PES agencies and the ARGE Jobcentres. The evaluation has been conducted by the evaluation department of the Bundesagentur für Arbeit (BA 2010, 2011).

However, nothing is known about the impact on efficiency gains of personalized delivery models like the German 4 PM or the French PPAE (personalized project for return to employment). There is a general evidence gap in all countries with respect to the impact of service delivery system on on/off-flow rates. State-of-the art evaluation tools seem not able to identify casual relations between services assessed, services accessed and outcomes. Thus, nothing is known about the casual contribution of profiling and assessment tools to the overall goal of most PES, the shortening of individual unemployment duration.

This stands in contrast to the evidence of "hard" statistical profiling in Australia and USA. Evidence in both countries demonstrate the feasibility of constructing statistical profiling instruments that produce good predictions of accuracy and create gains in terms of employment outcomes. The predictive power on length of benefit spells (USA) or the forecasting accuracy for the outflow from unemployment (AUS) is high. Moreover, evaluation results (1995-96) of the "Workers Profiling and Re-employment System" (WPRS)[5] in six US states using claimant-level data show that the profiling system reduced the time of UI benefit receipt between 0.21 - 0.98 weeks. The evaluation of the Kentucky profiling system by Black et al (2003) found a reduction of 2.2 weeks of UI benefits of $143 in UI benefits per beneficiary and an increase of $1,054 per beneficiary in yearly earnings. A recent study on the Georgia profiling model demonstrated that also in the recent "great recession" with soaring exhaustion rates, the profiling model was 50-60 percent better than random assignment (O'Leary/Eberts 2009)[6].

The continuity of statistical profiling as mainstream practice in the USA and Australia can be considered as implicit evidence of support for such systems. The opposite is the case in European countries where statistical profiling also show a satisfactory level of predictive power (e.g. 70% in Sweden or Denmark), but where these tools are not well accepted by caseworkers. This is especially the case with statistically assisted programme selection (targeting) tools. None of the sophisticated systems are currently used in practice. The Swiss SAPS system was evaluated against the targeting success (or failure) of the case workers who do not use SAPS. However, not the empirical results, but staff resistance was the main reason for not introducing SAPS in Switzerland. Simulation studies have shown that targeting systems can indeed improve the employment chances of jobseekers and that these systems are more effective than caseworkers (Lechner and Smith 2005).

The Canadian SOMS - introduced in 1994 - was stopped in 1999 by staff resistance and privacy commission ruling. In Denmark, resistance by case workers led to the

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[5] The use of profiling is compulsory in the US unemployment insurance system. Since 1993 federal law requires the state employment security agencies to establish and use a system of profiling for all new claimants for regular unemployment insurance (UI) benefits. Profiling is designed to identify UI claimants who are most likely to exhaust their regular benefits, so that they may receive re-employment services that will help them find a job more quickly. Hence, it is used as a way to target limited resources allocated to states under the Workforce Investment Act (WIA).

[6] There are also states which had a poor predicting record, usually because models lacked enough covariates/poor data. Models usually do not include soft skills and even crucial variables like age, gender or ethnicity - prohibited by US civil rights legislation. Neither questionnaires of participants, nor staff assessment are additionally used to profile clients.

profiling and targeting system (Job Barometer) being withdrawn from the toolbox of instruments which case workers were obliged to use. The German TrEffeR model was tested in various jobcentres, but due to the lack of soft factors like motivation or perseverance, it was deemed not to be applicable in practice. However, TrEffeR is used as an optional on-line evaluation tool in order to identify successful measures and interventions. The (net) re-integration results of different measures based on matched comparisons of programme participants at the local/regional/national level are at the disposal of each caseworker.

Another gap concerns cost-benefit calculations with regard to early intervention. Do the advantages of an early assessment followed by targeted assistance in order to reduce the detrimental effects of (long-term) unemployment outweigh potential deadweight effects of early intervention? In most countries, the deadweight costs of early intervention has not been calculated, but there is evidence from the UK that 50% of job seekers find jobs within three months and 75% within six months. Most JSA claimants (90%), even in the recession, leave the register within a year.

A segmentation exercise in the UK[7] aimed at reducing deadweight and gaining efficiency savings by early identification of those who did not need support was evaluated by Driskell (2005). The author assessed the potential of statistical profiling to identify those customers most likely to leave JSA (Jobseekers' Allowance) within 13 weeks and warranting a reduced intervention regime. The predictive model was correct in 70% of cases, but that also meant false prediction rates were quite high. It was estimated that relatively short increases in average JSA durations from false predictions would negate any savings. Most JSA claimants (90%), even in the recession, leave the register within a year.

More intensive face-to-face interviews are time-consuming and costly. Nonetheless, there is also empirical evidence from Germany, Netherlands and Denmark that an improved workload or a higher "contact intensity" could be (cost-)effective. A pilot project in 14 local employment offices in Germany has shown that a better workload (1:70 unemployed per caseworker) reduced the average duration of the UE spell by 10 days (Hainmueller et al. 2009). Whether the improved workload is also cost-effective is the subject of further research. Similar results are reported by Koning (2009) for the Netherlands[8]. Experimental evidence from Denmark increasing the frequency of client contacts, as well as an earlier start of mandatory full-time programme participation demonstrate that the unemployment duration can be reduced by 3 weeks (Rosholm 2008). Moreover, the new service regime has turned out to be cost-effective. Net benefits of about 2,000€ per unemployment spell have been the result of a cost-benefit analysis by the Danish Economic Council.

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[7] As no systematic customer profiling and segmentation methods are used, we did not include the UK in our country review. However, the application of customer segmentation has been explored in the past.
[8] Based on administrative data and taking account of the fact that the workload varies substantially between offices and over time, the author found that additional caseworkers significantly increase outflow rates for the short-term unemployed.

# 4.    LESSONS FOR IMPLEMENTATION

The country review of profiling approaches highlights a number of lessons for implementation. The Dutch experiences are exemplary with respect to major obstacles for a successful implementation of a profiling system. The Netherlands has the longest experience with profiling among European countries. In 1999, it introduced the chance-meter (Kansmeter) as a statistical tool to determine jobseekers' distance from the labour market. After evaluating the profiling system by the Ministry of Social Affairs and Employment, it was replaced in 2007 by a classification of jobseekers into two groups, and in 2009, profiling per se was replaced by the WERKformule, a time-led strategy which does not segment clients, but organizes service delivery according to the length of the individual unemployment spell. The causes of dissatisfaction coincide with the experiences in other countries.

*Obstacles and key success factors* based on country experiences are briefly set out below.[9]

- Risk prognosis constitutes a high risk of miss-classifications[10]
- Risk profiling may over-emphasize the focus on hypothetical positions in the labour market leading to an too early transfer to re-employment services without evaluating experiences during the job search
- Focus on obstacles instead of opportunities
- Early intervention strategies  may diminish the searching efforts of both sides, while at the same time triggering expensive labour market measures
- It's unclear what is the perfect point in time to decide on the support
- Sophisticated profiling and statistical targeting systems, as well as IT-based systematic approaches have high initial set-up costs, and
- require large investments in development (good data) and suitable software, as well as the training of caseworkers, and
- imply increased demands for documentation for caseworkers
- The effective use of profiling in service allocation is largely untested

There seems to be a consensus among most European PES that profiling helps the employment services to manage customer flow. Key success factors for implementation are:

- Profiling instruments which make full use of available information (including information on soft skills) while ensuring that they are used as intended by frontline staff and are quality assured over time

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[9] This section considers also findings reported in earlier conferences on profiling – namely the EU/BA/IAB conferences in 2005 and 2006 - as well as other reviews (e.g. Hasluck 2008, AMS Sweden 2011, Collewet et al. 2010).

[10] In the Netherlands, as well as in the Swedish Gävle pilot project (2007), the largest deviations between predictions and actual outcomes could be observed for individuals who were estimated to have a very low risk of becoming long-term unemployed (AMS 2011)

- The use of profiling systems requires adequate staff resources, a favourable workload (caseworker/client ratio) and highly qualified placement staff to run them effectively
- Integrated IT systems support the matching process
- A key issue of targeting systems is caseworker knowledge
- There is evidence from the US and Switzerland that caseworkers are less effective without systematic support instruments
- Experience shows that caseworkers may use profiling instruments if they are taught how to use them

### *Implications for PES practitioners (management and caseworkers)*

- Common to all countries is the need to take into account motivation, networking, "soft skills" etc. in the profiling exercise
- It has been demonstrated that the practical experience of caseworkers is not sufficient to make good decisions about the effectiveness of reintegration measures
- Further professionalization of caseworkers is desireable (e.g. how to deal effectively with motivation problems?)
- The skills and competencies of caseworkers, especially concerning guidance and counselling, have to be improved
- Team interaction and management tools at the team level can help to optimize professional help
- Improving the quality of customer-oriented processes according to clear quality measures
- More leadership from jobcentre managers is required[11], i.e. to offset the common practice of caseworkers in deciding upon the availability of local capacities, placing jobseekers into programmes and not based on the specific needs of clients
- Successful profiling and targeting systems require a high level of commitment from PES staff and management, and ultimately government and stakeholders
- The Australian experience shows that the consultation of major stakeholders, peak welfare organizations and the employment services industry was essential to ensure that the instrument was administered accurately and valued as an assessment tool
- There is general interest of PES in targeting systems but, experiences in Denmark, Switzerland, Germany and Canada also show that there is no final

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[11]The comprehensive evaluation studies on the performance of the Swiss employment services (2004-2006) identified a number of factors determining the integration success. Among them is e.g. a rather tough attitude of local PES managers. Tight control over caseworkers' work turned out to be more successful than loose control. http://www.seco.admin.ch/dokumentation/publikation/00004/00005/index.html?lang=de

solution to the dilemma that caseworkers reject effective targeting tools because they see their autonomy of decision violated by a machine[12]

# 5.  CONCLUSIONS

Targeted service delivery in European countries is nowhere exclusively based on statistical profiling models, but part of an "expert system" which could be characterized by profiling, customer differentiation, allocation of resources (targeting). It's usually the caseworker who makes the final assessment and decides upon the type of intervention. The common practice of "soft" profiling is thus a systematic way to gather information from jobseekers and then classify them by using this information. Germany is probably the country using the most comprehensive and sophisticated tool to streamline the matching process out of the European countries.

After a decade of experiences with different approaches, we observe rather opposing developments in Europe. On the one hand, recent pilots in Ireland or Sweden demonstrate that statistical profiling has still a momentum. We can also observe a latent interest to more targeted support in countries where no systematic customer profiling and segmentation methods have been used in the past, but where PES is now in charge of a broader range of benefit claimants like in the UK or in Austria.

On the other hand, there is an opposing development in countries like Denmark or Holland using now less refined methods of customer segmentation and service allocation than in previous years. Making customers queue for services ("queuing") according to the duration of unemployment in conjunction with mandatory activation and a clear "work-first" policy has replaced a more differentiated segmentation and early intervention strategy in these countries[13]. With increasing pressure on budgetary and staff resources, the upgrading of Internet job search and e-services not only for "market clients" are high on the PES agenda in other countries like Belgium, Sweden or Finland as well. Exploiting client profiles for different purposes, i.e. customer segmentation and automatic matching like in the German case may add value to a more balanced strategy.

Hence, how to balance intensive support with a self-help strategy is a crucial challenge for the years to come. The need for differentiation depends very much on the diversity of client groups the PES is in charge of. However, against the background of stretched budgets, the proof of the cost-effectiveness of labour

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[12] Denmark, for example, developed the Job Barometer in close cooperation with caseworkers. Nonetheless, in caseworkers' opinion, the Job Barometer failed to predict clients' needs adequately and the profiling toolbox did not make work easier because of the increased demands for documentation. A further critical point was also the missing link between match and measures (Larsen 2006).

[13] One reason to follow a work first and mandatory activation strategy may be its proven cost-effectiveness. Is the threat of re-employment services more effective than the services themselves? There is evidence from countries like UK, USA, Denmark or the Netherlands demonstrating that the "threat effect" of mandatory activation plays an important role in bringing people back to work. For a review of main empirical findings, see Konle-Seidl/Eichhorst 2008.

market programmes and early intervention strategies will be a critical factor. The further application of sophisticated profiling and targeting tools will demand more rigorous evaluations of the improvements in quality standards, as well as the efficiency gains on the frontline. The exchange of experiences at the European level is thus more important than ever.

# ANNEX 1: REFERENCES

AMS (Arbejdsmarkedsstyrelsen): A new match model, why and how? Dec 21, 2011

AMS (Arbetsförmedlingen): Förstudie Profilering. Rapport. March 9, 2011

BA (Bundesagentur für Arbeit): Evaluationsbericht zur Einführung des "4-Phasen-Modells der Integrationsarbeit" im Rechtskreis SGB II. Interner Bericht, August 2010 und im Rechtskreis SGB III, Januar 2011

Bimrose,J., Barnes S.A., Brown A., Hasluck, C. and H. Behle (2007): Skills Diagnostics and Screening Tools: A Literature Review. DWP Research Report 459

Black, D., Smith, J. Berger, M. and B. Noel (2003): Is the Threat of Reemployment Services more Effective than the Services themselves? Evidence from Random Assignment in the UI System. In: The American Economic Review, Vol. 93, N° 4, 1313-1327

Collewet, M., Gravesteijn, J. and J. de Koning (2010): Screening the unemployed for reintegration: experiences from seven countries during the past 20 years. SEOR Working Paper 2010/1

DEEWR (Department of Education, Employment and Workplace Relation): Review of the Job Seeker Classification Instrument, June 2009

Driskell, W. (2005): Customer segmentation: Statistical profiling using the Work and Pensions Longitudinal Study. DWP Policy Working Paper

Delautre, G. and V. Le Gall (2006): From profiling to counselling job seekers in France. Paper presented at the Conference on "Counselling and Matching based on Profiling", Nuremberg, October 11-13, 2006

Fretz, M (2005): The Kansmeter in the Netherlands. Paper presented at the conference "Profiling for Better Services", Nuremberg, January 12-12, 2005

Hainmueller, J., Hofmann, B., Krug, G. and K. Wolf (2009): Do more placement officers lead to lower unemployment? Evidence from Germany. IAB Discussion Paper 13/2009

Hasluck, C. (2008): The Use of statistical Profiling for Targeting Employment Services: The International Experience. In: Di Domenico, G. and S. Spattini (Eds.): New European Approaches to Long-Term Unemployment. What Role for Public Employment Services and What Market for Private Stakeholders. Kluwer Law International, 39-56

O'Leary, C. and R. Eberts (2010): Employment and Training Policy in the United

States during the Economic Crisis. Upjohn Institute Working Paper No. 10-161

Keulen T. (20009): WERKbedrijf. Experiencias Internacionales de Intermediación Laboral, presented at the ILO Workshop, August 31, 2009, Santiago de Chile

Koning, P. (2009): The effectiveness of Public Employment Service workers in the Netherlands. In: Empirical Economics, 37, 393-409

Konle-Seidl, R. und W. Eichhorst (2008): Does Activation Work? In. Eichhorst et al. (eds): Bringing the Jobless into Work. Experiences with Activation Schemes in Europe and the US. Springer-Verlag Berlin, Heidelberg

Larsen, A. (2006): Employability Profiling System – the Danish Experience. Paper presented at the Conference on "Profiling based Counselling and placement programmes of Public Employment Services, 11-13 October, 2006, Nuremberg

Lechner, M. and J. Smith (2005): What is the Value Added by Case Workers? Labour Economics, Volume 14, Issue 2, April 2007, Pages 135-151

Rosholm, M. (2008): Experimental Evidence on the Nature of the Danish Employment Miracle. IZA Discussion Paper 3620

Rudolph H. and R. Konle-Seidl (2005): Profiling for Better Services. Report on the European Profiling Seminar, Nuremberg, January 12-14, 2005