



Extract from

Gender and Profit

NUTEK
The Swedish Business Development Agency

The Swedish Business Development Agency (NUTEK) has carried out a study to examine whether there is a clear link between gender equality and profitability in enterprise. The below text is a translation of two essential chapters in this study, which in its entirety is available in Swedish - "Jämställdhet och Lönsambet" - order from NUTEK, phone +46 8 681 91 00, fax: +46 8 19 68 26.

The study encompassed almost 14,000 Swedish companies in the business field, i.e. both private companies and publicly owned enterprises operating as a company. Financial data and information concerning employees are both from 1995 or 1996, depending on when the financial year ended.

By emphasising the connection between a gender-conscious approach in an organisation and the resultant impact on profitability, companies find it easier to motivate the integration of gender equality issues into all their areas of activity. The aim of this report is to develop methods for quantifying the concept of gender equality and for studying whether there is a link between gender equality and profitability in enterprise.

Three criteria for gender equality

In an attempt to capture quantitatively what in essence is a question of attitudes and mutual relations between women and men, we have chosen three phenomena: representation, job structure and levels of parental leave. On the basis of these phenomena, we have created three variables that enable us to study the degree of gender equality in a company.

The first variable relates to the representation of women and men with different qualifications. We examine how representativeness in the companies corresponds to the overall situation in society as regards women and men in different educational categories. This applies not just to new staff but to the present workforce as a whole, i.e. all those recruited by the company at one time or other. The labour stock of a given company mirrors a historical recruitment process. Representation may reflect the company's intentions and willingness to achieve a balance between women and men in all its areas of activity. Thus this variable shows whether the company admits both women and men to the same extent.

The second variable, job structure, shows the extent to which women and men are represented at different levels in the company. As we have too little information about companies' job structures, we use distribution of income¹ in each company as a rough guide to the distribution of women and men in employment positions. This variable, then, reflects aspects of both resource distribution and advancement opportunities in the company. A company may, for instance, have a recruitment policy emphasising gender equality yet fail to provide women and men with the same career opportunities.

The idea is for the distribution of parental leave to show realia, i.e. how female and male norms and values are manifested. The amount of parental leave taken is an indication of the gender equality climate within the company. Our hypothesis is that companies in which the distribution of parental leave between women and men is relatively even have a more equality-minded climate than others.

¹ Income for those working part time has been adjusted upwards to an expected full-time income.

Attitudes towards gender equality issues are likely to be more favourable and sympathetic in this type of company.

These three variables illustrate different aspects of the gender equality concept. They do not pretend to offer a strict delimitation of the concept, but rather should be viewed as a first attempt to develop a means of measuring gender equality in the companies concerned. In sum, representation and job structure could be said to reflect the company's active approach to the gender equality issue while levels of parental leave are more an indication of what the gender equality climate is like at the company. Assessment of a company's degree of gender equality is contingent on what active measures of one kind or another it in fact takes, and not on its plans or aims, which may never see the light of day.

Chapter 4

Measuring company profitability

In the present study, we examine whether there is any clear link between gender equality and profitability in enterprise. To do so, we must not only measure the degree of gender equality but also decide what we mean by profitability. Analyses of company profitability tend to focus principally on two aspects: the company's earnings and its earning power, i.e. the size of the return on capital employed.² Profitability in a company is affected by a wide range of factors, such as the general business climate, competitive relations, what branch of industry the company is operating in, etc. When assessing company profitability, these factors have to be taken into account.

Analysing the link between the degree of gender equality and the company's productivity is also of interest. By productivity we mean net value added per employee. Productivity, too, is affected by a number of different factors, e.g. the degree of capital intensity in production and how large the company is. In some types of production, there may also be economies of scale, or scale benefits.

Productivity may increase without any increase occurring in profitability, and vice versa. Profitability is influenced by more factors than productivity, among them wage costs, net income and the total size of company capital. Below, we will briefly describe how we define earning power and productivity.

4.1 Earning power

Company income is expressed as earnings over the past year, and the size of these earnings naturally depends on the size of the company. In order to compare profitability between companies, therefore, we have to specify earnings in relation to something that shows the size of the company or the extent of the company operation. Usually, this is done by specifying earnings in relation to the capital that the company has at its disposal. This is a measure of the company's return on its capital – earning power.

What, then, is meant by capital? The company has acquired money from owners/shareholders and lenders in order to purchase assets of various kinds. It has invested in property and machinery, trading stock and so forth, and also has assets in the form of claims on customers and bank holdings, etc. The assets that the company possesses represent the total capital invested in it.

² Blomquist and Leonardz (1984)

Earning power in relation to total capital shows what rate of return the company has achieved with the help of its assets.

The rate of return on total capital (earning power) is just one of a number of ratios that can be used to describe company profitability. Another common measure is net operating income after depreciation in relation to operating revenue, which is called net profit.

Earning power expresses the return on the accumulated capital invested in the company, while net profit expresses the return on turnover, i.e. the income that has been generated with the help of invested capital.

4.2 Productivity

Company progress cannot be assessed simply on the basis of returns.³ If a company is only interested in earning power, it may take too short-term an approach, which may damage its chances of achieving a high level of productivity. It may fail to make high-capital investments that do not yield an immediate return even though they boost productivity in the longer term. The earning power ratio, therefore, must be augmented by some kind of ratio showing the company's ability to produce goods and services over time. One such measure of productivity is the net value added ratio, i.e. the net value added per employee, where productivity-boosting investments are viewed as an asset and not simply as a cost.

$$\text{RETURN ON TOTAL CAPITAL} = \frac{\text{adjusted net operating income after depreciation} + \text{interest income}}{\text{adjusted assets}}$$

$$\text{NET PROFIT} = \frac{\text{operating revenue} - \text{operating costs} - \text{depreciation}}{\text{operating income}}$$

$$\text{NET VALUE ADDED RATIO} = \frac{\text{operating revenue} - (\text{operating costs} - \text{labour costs}) - \text{depreciation}}{\text{number of employees}}$$

Chapter 5

The link between profitability and gender equality in enterprise

Profitability and productivity in a company depend on a number of factors. Where the production function is traditional, with labour and capital as explanatory factors, we can partially explain what affects productivity in a company. With the aid of a regression model and statistical analysis, we can estimate the impact of these factors on productivity and profitability. In the present model, we add the gender equality criteria we have formulated in order to determine whether profitability varies

³ Brulin and Nilsson (1995)

with the degree of gender equality. We transform the model slightly and also test an approach using a couple of earning power ratios.

5.1 The regression model for the production function

When studying productivity, i.e. net value added per employee, we base our analysis on a traditional production function with labour and capital as explanatory factors. Labour, or human capital, may vary in quality, so we make an estimate using the individual employee's educational qualifications. Capital assets – the company's plant and machinery – also vary in quality, of course, but we lack sufficient information as to the average age, etc, of the equipment. It is not only the quality of the production factors that affects productivity but other factors as well. One such of considerable importance is capital intensity, i.e. the amount of capital per worker in production. How the company makes use of its human capital is another significant factor.

Our hypothesis is that in a company climate emphasising gender equality, the skills and ability of all employees are properly recognised, irrespective of gender. This leads to an efficient use of the company's human capital and thus to increased productivity. In adopting this approach, we view gender equality as a factor that influences company productivity, and measure this factor by means of the estimated criteria for gender equality per company. These criteria are representation (the R ratio), job structure (the J ratio) and the amount of temporary parental benefit claimed (the TPB ratio), converted into an index where a high index level represents a high level of gender inequality in the company.⁴

In our statistical analysis, we use register data for the companies and their employees. Financial data concerning the companies' balance sheets and income statements have been taken from the Swedish Credit Information Centre, while staff qualifications have been assembled from the educational database of the Swedish Business Development Agency (NUTEK). With this approach, the regression equation assumes the following form:

Dependent variable:

- Net value added per employee

Explanatory variables:

- Constant
- Gender equality index
- Proportion of university-trained staff or the equivalent
- Plant assets per employee or sectoral/capital intensity dummies
- Size dummies or number of employees

Our hypotheses are that

1. Companies emphasising gender equality have a higher level of productivity than companies with less gender equality.
2. Companies with a large proportion of university-trained staff have a higher level of productivity than companies with fewer university-trained staff.
3. Capital-intensive companies have a higher level of productivity than companies with a lower level of capital intensity.
4. Large companies may have a higher level of productivity than small companies due to the scale benefits that can be achieved in certain cases.

⁴The reason for this construction is that an over-representation of women has to be equated with an under-representation of women.

5.2 Regression model for profitability

As in the case of productivity, profitability in a company is due to a wide range of factors, including capacity utilisation (economic trends in the industry), competitive relations (incl. foreign competition), industrial sector, scale benefits and regional factors (transport costs, wage cost levels, local business trends). We also argue that the proportion of university-trained staff or technical staff should be included as an explanatory variable.

A company's competitive situation is difficult to grasp. We would like access to information about the share of production sold on the export market or the number of companies operating in the domestic market, or about the extent of import competition. If we cannot gain access to this type of information, the company's line of business may be used as an approximate value, but in that case we cannot distinguish the effect of competitive pressure from other industry-specific effects on profitability.

With this approach, the regression equation assumes the following form:

Dependent variable:

- Earning power or net profit

Explanatory variables:

- Constant
- Gender equality index
- Proportion of university-trained staff or the equivalent
- Competitive dummies
- Regional dummies
- Sectoral dummies
- Size dummies or number of employees

Our hypotheses in this analysis are that

1. Companies emphasising gender equality have a higher rate of return than companies with less gender equality.
2. Companies with a large proportion of university-trained staff have a higher rate of return than companies with fewer university-trained staff.
3. Companies operating in a competitive market have a lower rate of return than companies in a market where competition is limited.
4. Companies with a high level of capacity utilisation have a higher rate of return than companies with a lower level of capacity utilisation.
5. Large companies may be more profitable than small companies.

5.3 Impact of gender equality on productivity

Productivity

Our statistical analysis of the production function shows that companies with a less balanced representation – i.e. where representation differs from the distribution of women and men in the total workforce per educational category – appear to have a lower level of productivity than other companies with a greater degree of gender equality. The job index shows no significant links; in other words, there does not appear to be anything in this criterion to explain a company's productivity. Finally, companies with an even distribution of parental leave (TPB) between the

sexes tend to be more productive than other companies, taking into account other relevant factors (see above). Table 1 shows the results of this statistical analysis.⁵

Table 1 Factors affecting company net value added, 1995

Factor	Effect
Representation index	Significant negative correlation with productivity, i.e. productivity is lower the less gender balanced the company's representation is.
Job index	No significant links
TPB index	Significant negative correlation with productivity, i.e. productivity is higher in companies with greater gender equality.
Alternative TPB index	Negative link, although not significant
Education	Significant positive correlation between productivity and the proportion of university-trained staff in the company.
Capital intensity	Significant positive correlation between productivity and the degree of capital intensity in production.
Size	Very small companies and the largest ones have a negative size coefficient, which may indicate diminishing benefits of scale for both the smallest and largest companies. Otherwise, no clear correlation with productivity.

Source: NUTEK, processing by the authors.

The hypotheses relating to the impact of educational qualifications and capital intensity on productivity were confirmed by the regression results. Both have a significant favourable impact.

Table 2 Factors affecting company return on total capital, 1995

Factor	Effect
Representation index	Significant negative correlation with earning power.
Job index	Non-significant positive correlation with earning power.
TPB index	Non-significant positive impact on earning power, i.e. the impact on earning power cannot be distinguished from zero, or no impact.
Alternative TPB index	Significant negative correlation between the limited TPB index and earning power.
Education	Non-significant negative correlation between the proportion of university-trained staff in the company and earning power.
Regional family	No clear links with earning power.
Branch of industry	Profitability varies significantly depending on industrial affiliation.
Size	No clear correlation with earning power.

Source: NUTEK, processing by the authors.

Earning power

Tables 2 and 3 show how return on total capital and net profit respectively are correlated with the ingoing variables.

The representation index displays a significant negative impact, which suggests that an uneven distribution of women and men in the various educational categories has an adverse effect on a

⁵ The results in detail are reported in NUTEK 1999:19.

company's return on total capital. Here, too, the job index shows a non-significant impact, which means that no significant links can be identified in any direction.

Table 3 Factors affecting company net profit, 1995

Factor	Effect
Representation index	Significant negative correlation with net profit.
Job index	Non-significant negative correlation with net profit.
TPB index	Significant negative correlation with net profit, i.e. net profit is higher in companies with greater gender equality.
Alternative TPB index	Non-significant negative correlation with net profit.
Education	Significant positive correlation between the proportion of university-trained staff in the company and net profit.
Regional family	Net profit varies significantly depending on which regional family the company belongs to.
Branch of industry	Net profit varies significantly depending on industrial affiliation.
Size	No clear correlation with net profit.

Source: NUTEK, processing by the authors.

There is a significant negative correlation between the TPB index and earning power. Finally, the effect on earning power both of the proportion of university-trained staff and of regional family affiliation is unclear, while the effect varies significantly depending on which industry is involved.

Table 3 shows that company net profit is affected by a balanced gender representation. A significant negative correlation means that net profit is negatively affected the more uneven the gender balance is between women and men in the various educational categories. The varying amounts of parental leave (TPB) claimed by staff in the company also have an effect. The more gender-conscious a company is according to our first TPB index, the higher the rate of return. This does not, however, apply in the case of the alternative TPB index, which has no significant correlation with net profit. Nor does the job index have any significant effect on net profit. The greater the proportion of university-trained staff in a company, the higher its net profit. Profitability also varies significantly depending on the company's industrial and regional affiliation.

Interpretation of results

Table 4 represents a summary of the results from Tables 1-3. The effect of having a representatively balanced labour group, with both women and men from each educational category normally employed by the company, appears to be stable. The greater the deviation from this norm, the greater the adverse effects both on earning power and on productivity. This is taken to mean that a company with a representatively balanced workforce is organised in such a way that a greater number of staff feel disposed to perform well, that the company takes account of the skills of each individual regardless of gender, and that opportunities for synergy effects are properly exploited.

Table 4 Summary of gender equality factors affecting company profitability, 1995

Factor	Earning power		Productivity	
	Return on total capital	Net profit	Net value added	
Representation	(-)*	(-)*	(-)*	(-)*
Job	(+)	(-)	(+)	(+)
TPB index	(+)	(-)*	(-)*	(-)*
Alternative TPB index	(-)*	(-)	(-)	(-)

Note: * denotes significant results.

Source: NUTEK, processing by the authors

However, no clear patterns can be discerned as regards the effect of spreading women upwards in the hierarchy. The job criterion measuring the distribution of women across income structures, i.e. the proportion of women at senior executive level in the company, shows no stable or significant effects. This could be taken to mean that women are neither better nor worse than men as managers or specialists, as these criteria did not have any impact on profitability. But few women occupy leading positions in Swedish enterprise, which could explain why we have been unable to detect any effects in this area. When women are so few in number, the company organisation as a rule is unable to reap the benefits of having mixed work groups at managerial level.

The criterion showing the distribution of parental leave days (temporary parental benefit for the care of sick children) claimed by women and men respectively displays slightly varying results. On the whole, however, it could be said that an uneven distribution of parental leave between the sexes has an adverse effect on profitability. This could be taken to mean that in companies with a climate of gender inequality, profitability suffers. Bearing in mind the TPB patterns in the companies studied, an alternative interpretation is also possible. In most cases where there is little difference between the parental leave claimed by women and men respectively, women have claimed fewer days than the average, and in those cases where the difference is great, women have on the whole increased their share of leave. In other words, it is not the men who have adjusted the amount of leave they take to the women's levels but the women who have adjusted and reduced their own share. The negative impact on profitability might then be due to the adverse effect it would have on the company were the employees to claim more TPB days than the average. One cannot help wondering, however, what the gender equality climate is like at a company where the total amount of parental leave claimed per child and year is below the average.