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## OBJECTIVES

However obviously pregnancy is not an illness, it is also one of the sources of medical-related work absenteeism and therefore generates indirect costs from the societal perspective. The aim of this work was to estimate the total and average costs of absenteeism generated by women during pregnancy and post-natal period in Poland. The secondary objective was to quantify indirect costs in relation to maternity benefits and examine the share of absenteeism caused by pregnancy, childbirth, and puerperium in a total illness-related absenteeism in Poland. Quantification of these costs may help to assess the impact of pro-policy adjustments.

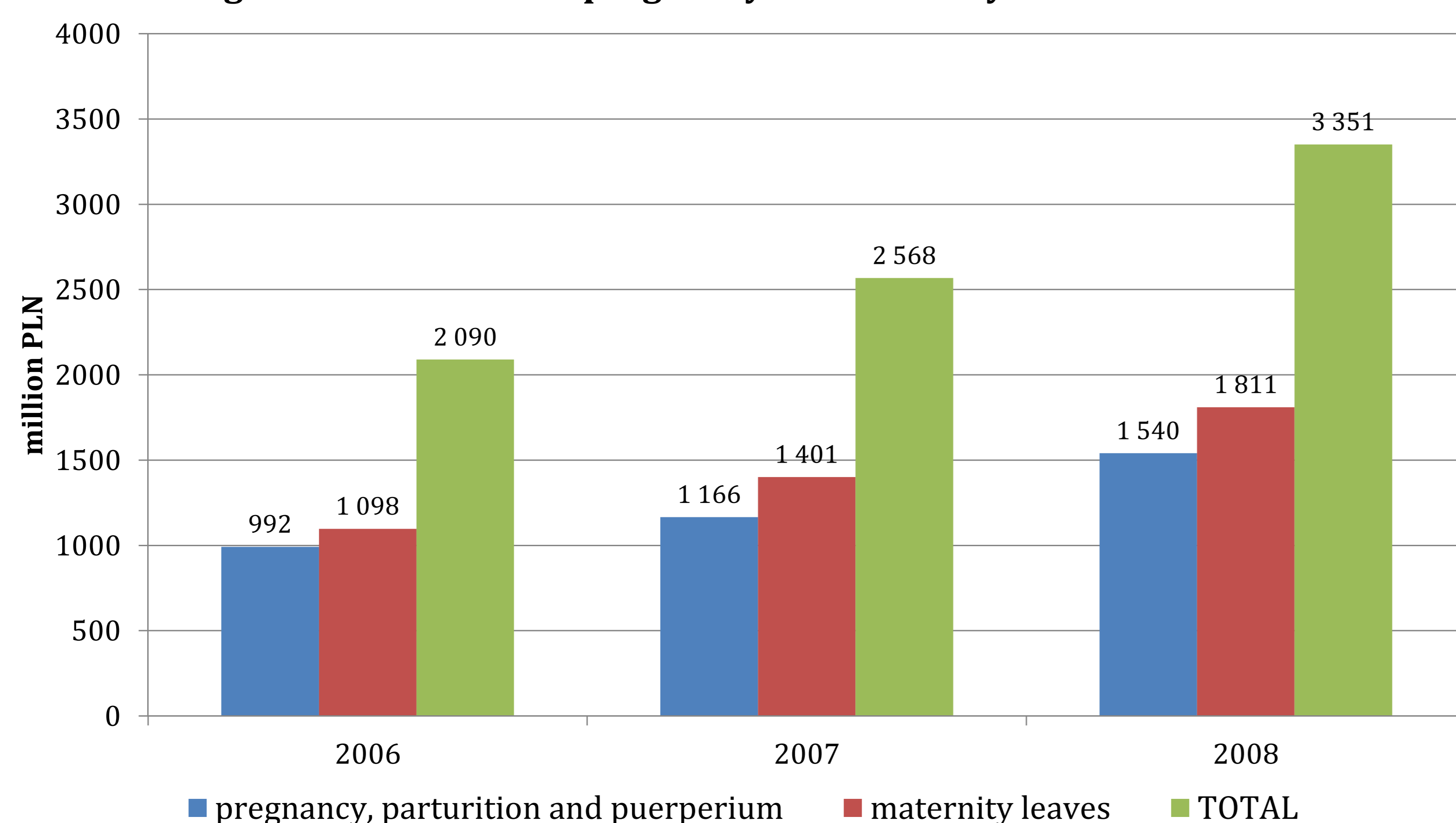
## METHODS

- Indirect costs of pregnancy were estimated from the social perspective using human capital approach. Monthly women salaries were used to approximate the cost of absenteeism.
- Polish Social Insurance Institution (ZUS) reports on the disease-related absenteeism in Poland in the period 2006–2008 were used as a main data source. As the benefits paid during pregnancy-related and maternity-leaves amount to 100% of salary, they could be directly used to estimate the loss of productivity.
- Indirect costs of pregnancy were then compared to the estimated value of future life-time productivity of a new-born child; this value was calculated using human capital approach, using a 5% discount rate for future salaries and taking into account the average work activity rate and probability to achieve the certain age based on life tables.
- All costs are expressed in Polish Zlotys (PLN) and in Euros using purchasing power parity (1 PLN  $\approx$  0.253 €, exchange rate; 1 PLN  $\approx$  0.435 €, PPP).

## RESULTS

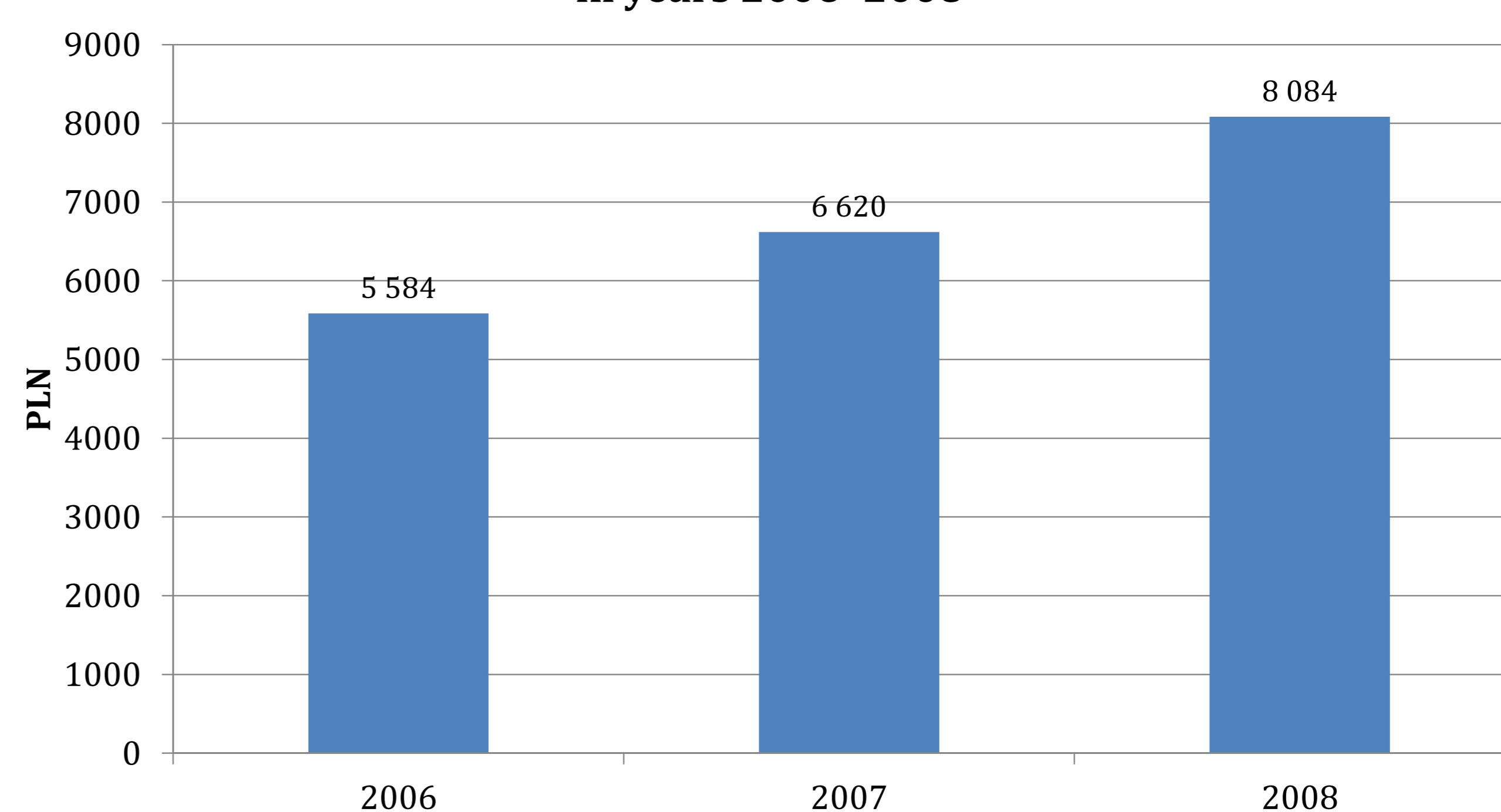
- The pregnancy, parturition, and puerperium related absenteeism represented successively 15.1%, 15.8% and 16.7% of the total disease-related absenteeism in Poland in years 2006–2008 (as measured by days of absence).
- The cost of absenteeism during pregnancy, childbirth and puerperium in 2006 amounted to 992.2 million PLN (431.5 €), and in two successive years increased by an average of 270.6 million PLN (117.7 €) yearly.
- Indirect cost associated with maternity leaves in years 2006–2008 were respectively equal to: 1,097.6 million PLN (477.3 million €), 1,401.4 million PLN (609.4 million €), and 1,810.6 million PLN (787.4 million €).

**Fig. 1. Indirect costs of pregnancy in Poland in years 2006–2008**



## RESULTS (cont'd)

**Fig. 2. Indirect costs of a single pregnancy in Poland in years 2006–2008**



- Total indirect costs of pregnancy in years 2006–2008 amounted to successively 2,089.9 million PLN (908.8 million €), 2,567.7 million PLN (1,116.6 million €), and 3,350.9 million PLN (1,457.2 million €).
- Total indirect costs of pregnancy in years 2006–2008 equalled on average 2,669.5 million PLN (1,160.9 million €).
- Indirect cost related with single pregnancy in 2006 was equal to 5,584.2 PLN (2,428.4 €), and in two successive years increased by an average of 1,250.5 PLN (543.8 €) yearly.
- Indirect cost related with single pregnancy was estimated at 6,765 PLN (2,942 €) representing only 3.5% of production value (193,040.3 PLN or 83,949 €) which will be generated by one born child in the future.

## CONCLUSIONS

However pregnancy is obviously not an illness, nonetheless indirect costs thereof can be calculated and should be used when evaluating the impact of pro-family policies. It is important to note that discounted indirect benefits exceed indirect costs.

The main limitation of the present work is the omission of women insured in the Agricultural Social Insurance Fund, which is designed for farmers and their families. However the organisation of work in small, self-owned agricultural enterprises may lead to smaller indirect costs in this area. Another potential source of bias is that upon woman's request the pregnancy code may not be put on the sick-leave document thus leading to underestimation of the costs.

## DATA SOURCES

- Social Insurance Institution, Absenteeism in period 2006–2008, Statistics Department, Warsaw 2009.
- Social Insurance Institution, The important information about social insurance in 2006–2008, Warsaw 2009.
- [http://stats.oecd.org/Index.aspx?datasetcode=SNA\\_TABLE4](http://stats.oecd.org/Index.aspx?datasetcode=SNA_TABLE4) (accessed on 2010.10.21)

## CONTACT

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