If the following assumptions are stated:

1: $_aP$ is the research personnel of the CNR at 1995

2: $_tP$ is the research personnel of the CNR at 2005

3: t is the period of the human resource policy and it is equal to 10 years

4: Human Resource Policy (HRP) over Forecast horizon $]t+n$ onwards] is similar to HRP over $[t; t+n]$ i.e. [1995; 2005]

Table 2 shows the arithmetic, geometric and exponential rates of growth of the CNR research personnel over time.

The rates of growth show a declining trend of CNR research personnel over 1995-2005, that is higher if the hiring of 2001 is not considered: −3.63% vs. −0.70% (see last column in table 2).

These vital results are important to forecast when the research personnel of CNR will be halved, considering the policy of human resources applied by Italian Governments over 1995-2005 period that is characterized by expansion and restriction phases of hiring (see figure 1).
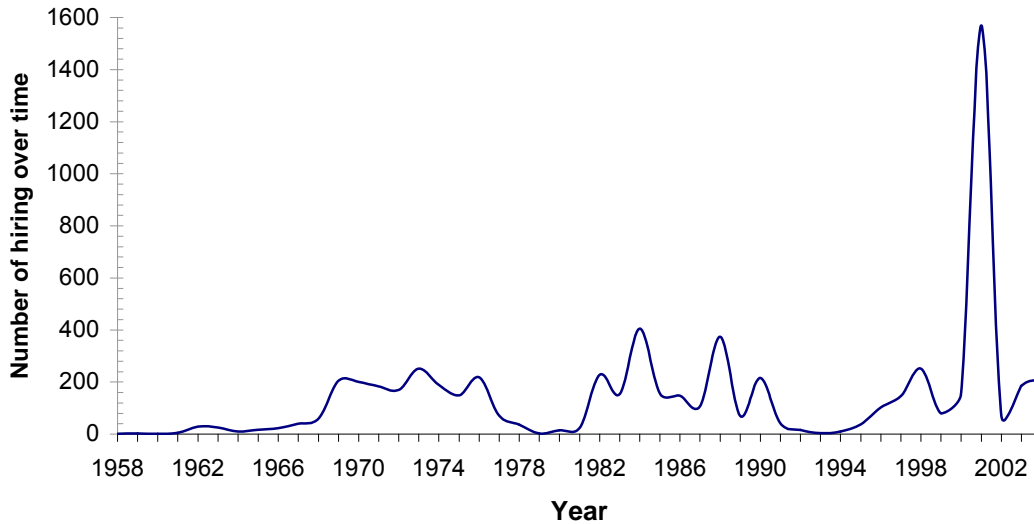

FIGURE 1: UNSTABLE HIRING GROWTH OF CNR RESEARCH PERSONNEL

TABLE 2: CNR PREDICTED DEMOGRAPHIC RATES OF GROWTH OVER 1995-2005

Year	1995	2005
Research Personnel of CNR (number of units)	7,451	6,945
	Rate	*Rate %*
^ar = Arithmetic growth 1995-2005	−0.0068	−0.68
^gr = Geometric growth 1995-2005	−0.0070	−0.70
r = Exponential growth 1995-2005	−0.0070	−0.70
r' = Exponential growth 1995-2005 without 2001*	−0.0363	−3.63

Note: Hiring in 2001 is 1,570 employees