

Hashemite Kingdom of Jordan

Pharmaceutical Industry

Structure of Employment

Based on a Survey held Dec. 1998

**Ministry of Planning
The National Competitiveness Team**

Outline

- ✓ Industry Overview.
- Structure of Employment.
- Profile on Professors in Pharmaceutical Faculties at Various Jordanian Universities.

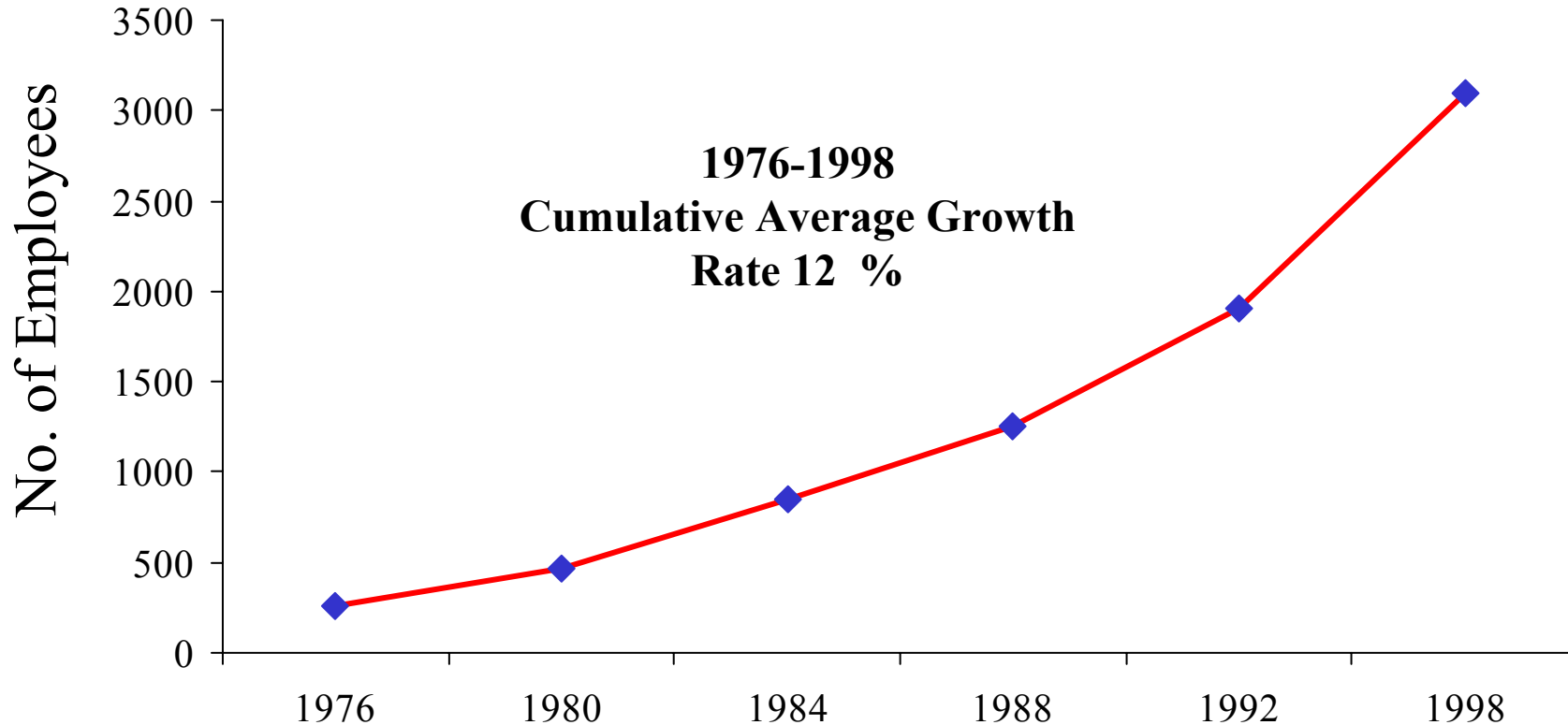
Industry Overview (1998)

- The Pharmaceutical industry has been of great importance to Jordan over the last three decades:
 - **8%** of manufacturing **GDP**
 - **3%** of manufacturing **employment**
 - **10%** of total **exports**
 - Fourth largest exporter in Jordan
 - Over 70% of its total production is exported.
- The industry remains relatively small, with a total of 17 companies.
- In 1994, Jordan applied for membership in the WTO: Pharmaceutical companies fear the issue of compliance with international standards of intellectual property rights.

Outline

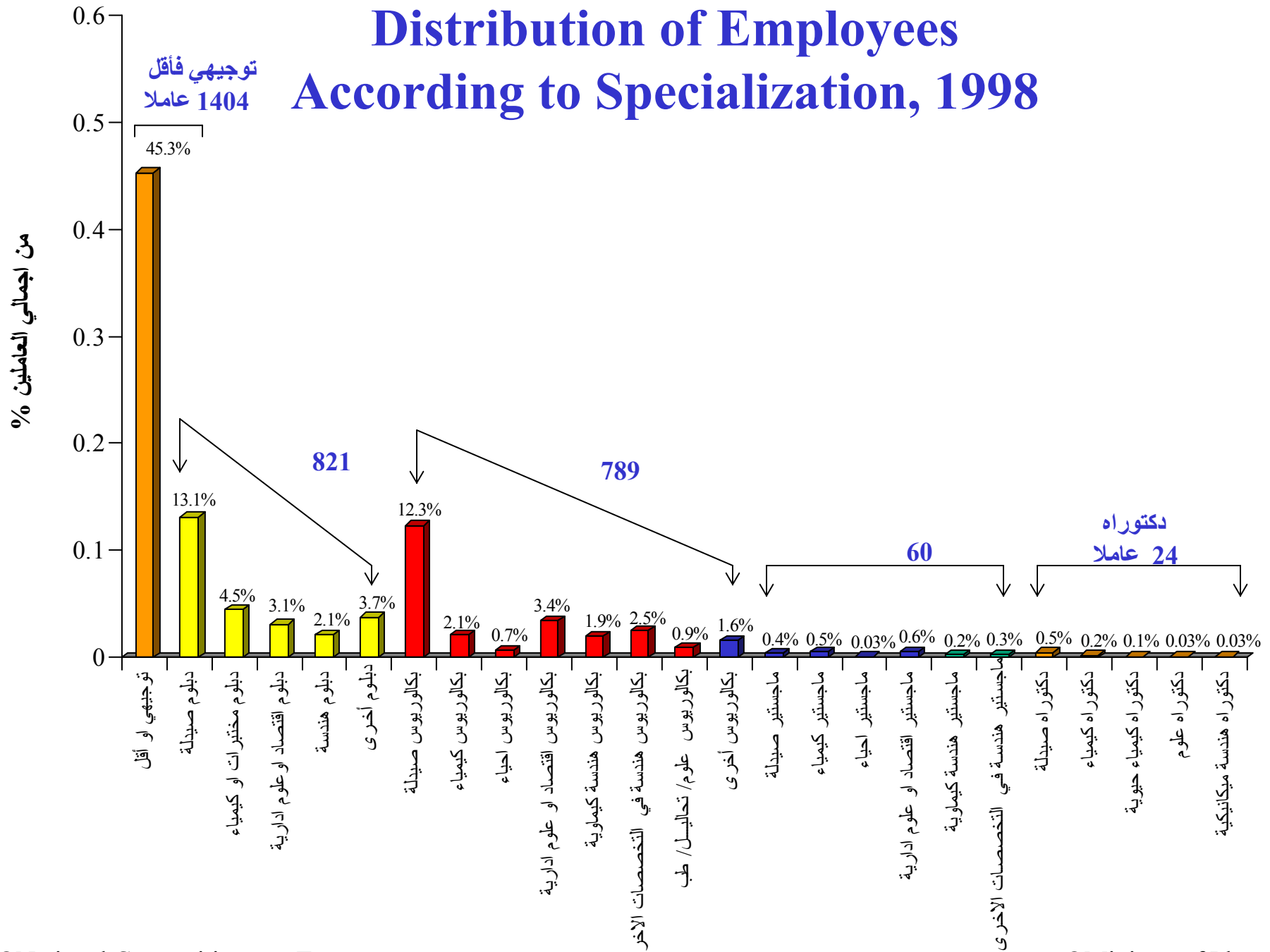
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Growth of Employment

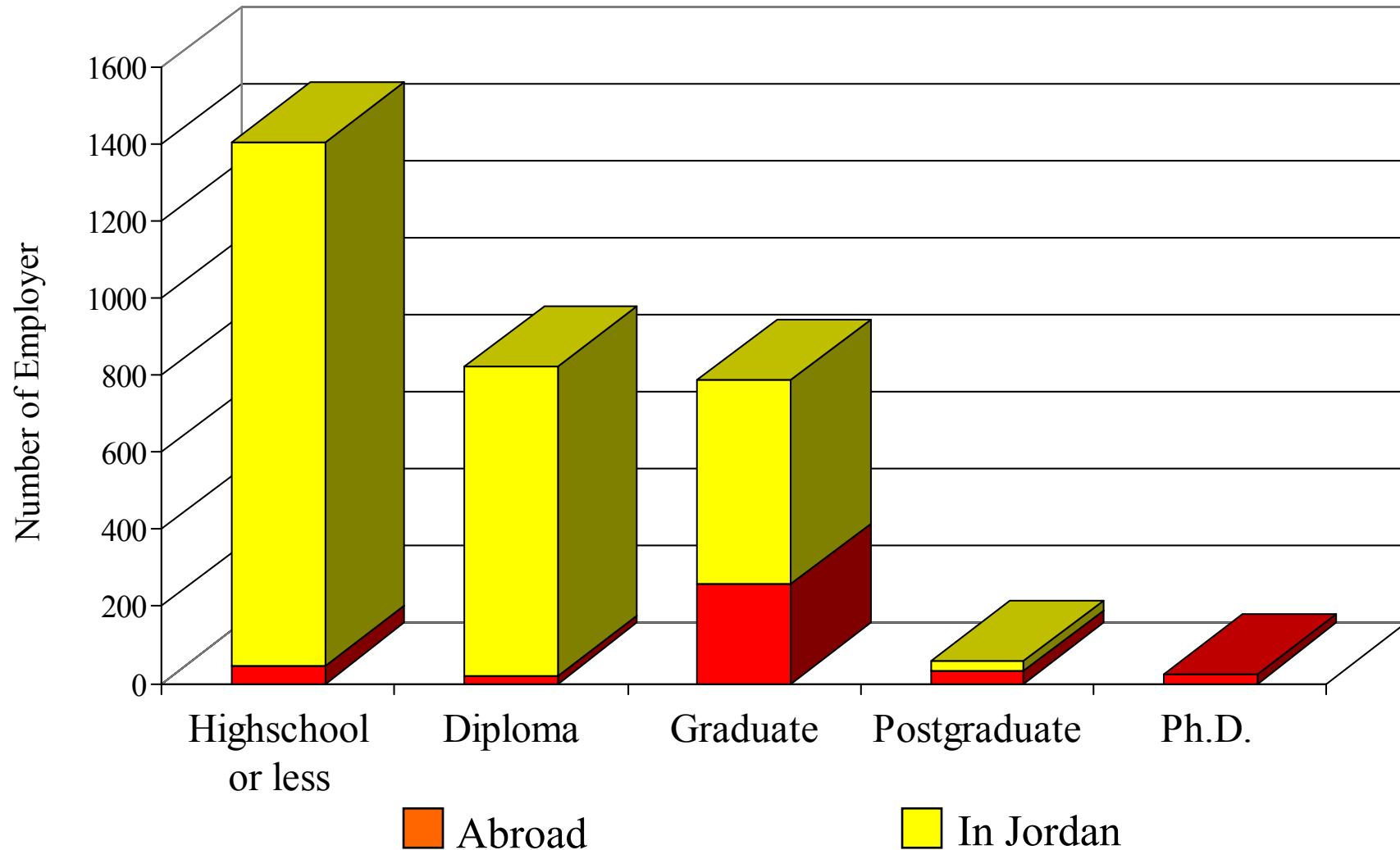


The pharmaceutical industry is considered an important source of employment. In 1998, the industry employed **3098** workers.

Distribution of Employees According to Specialization, 1998

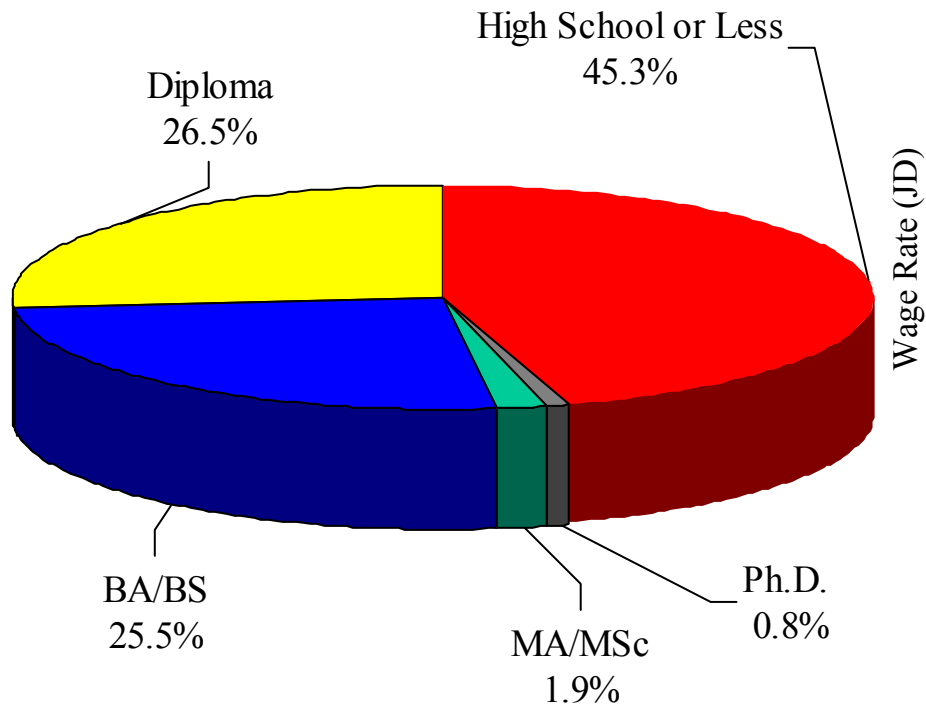


Distribution of Employees According to Place of Graduation



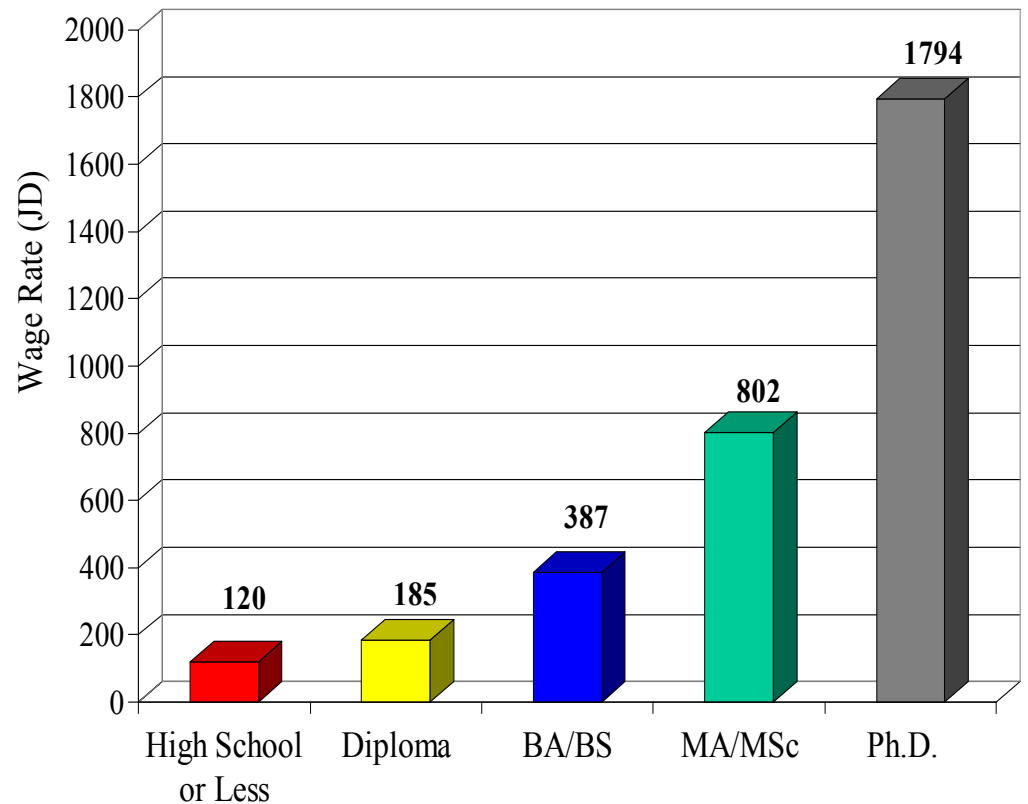
Qualifications vs. Wages

Distribution of employees* according to academic qualifications, 1998

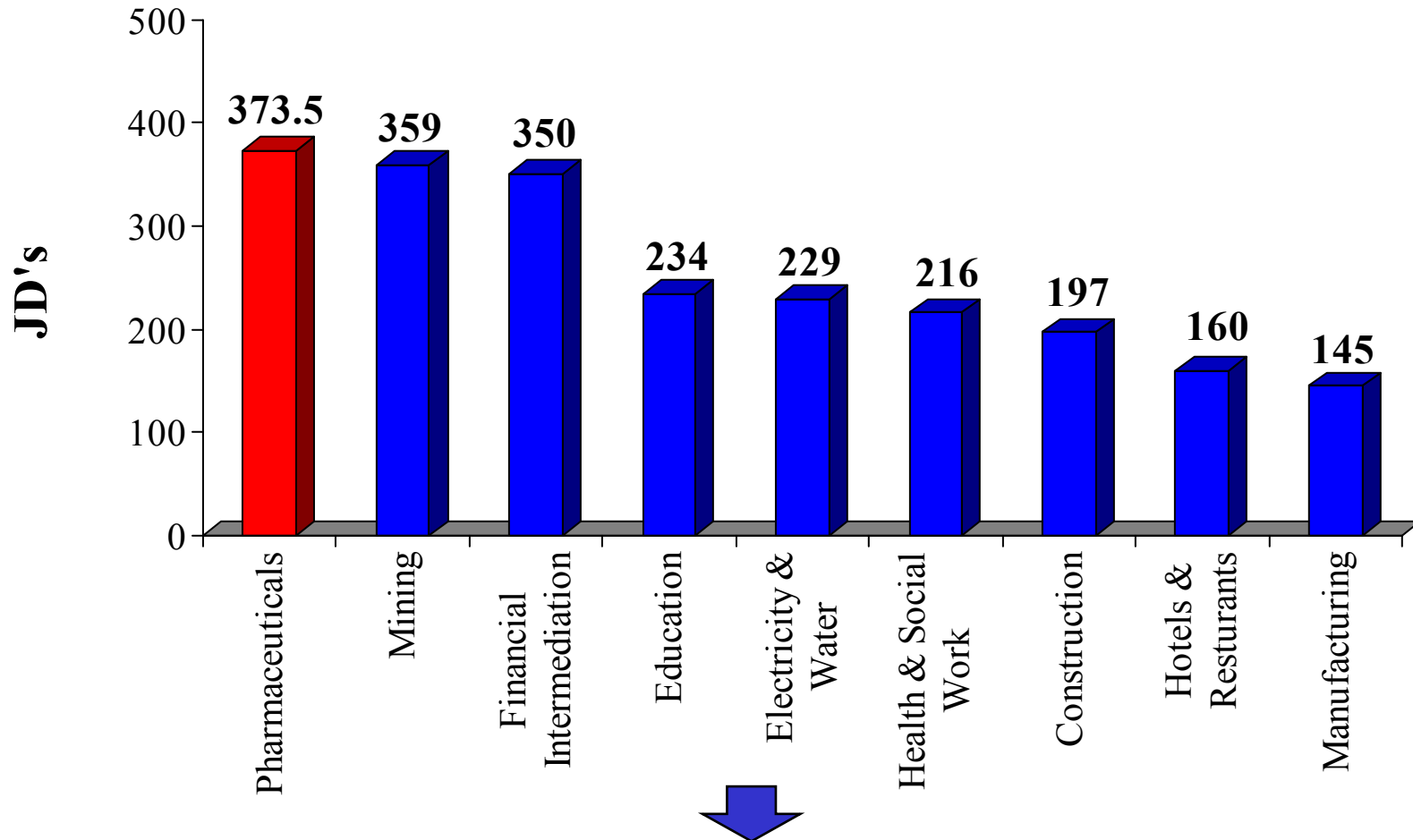


*Total number of employees 3098

Wage rates for employees according to academic qualifications (JD)

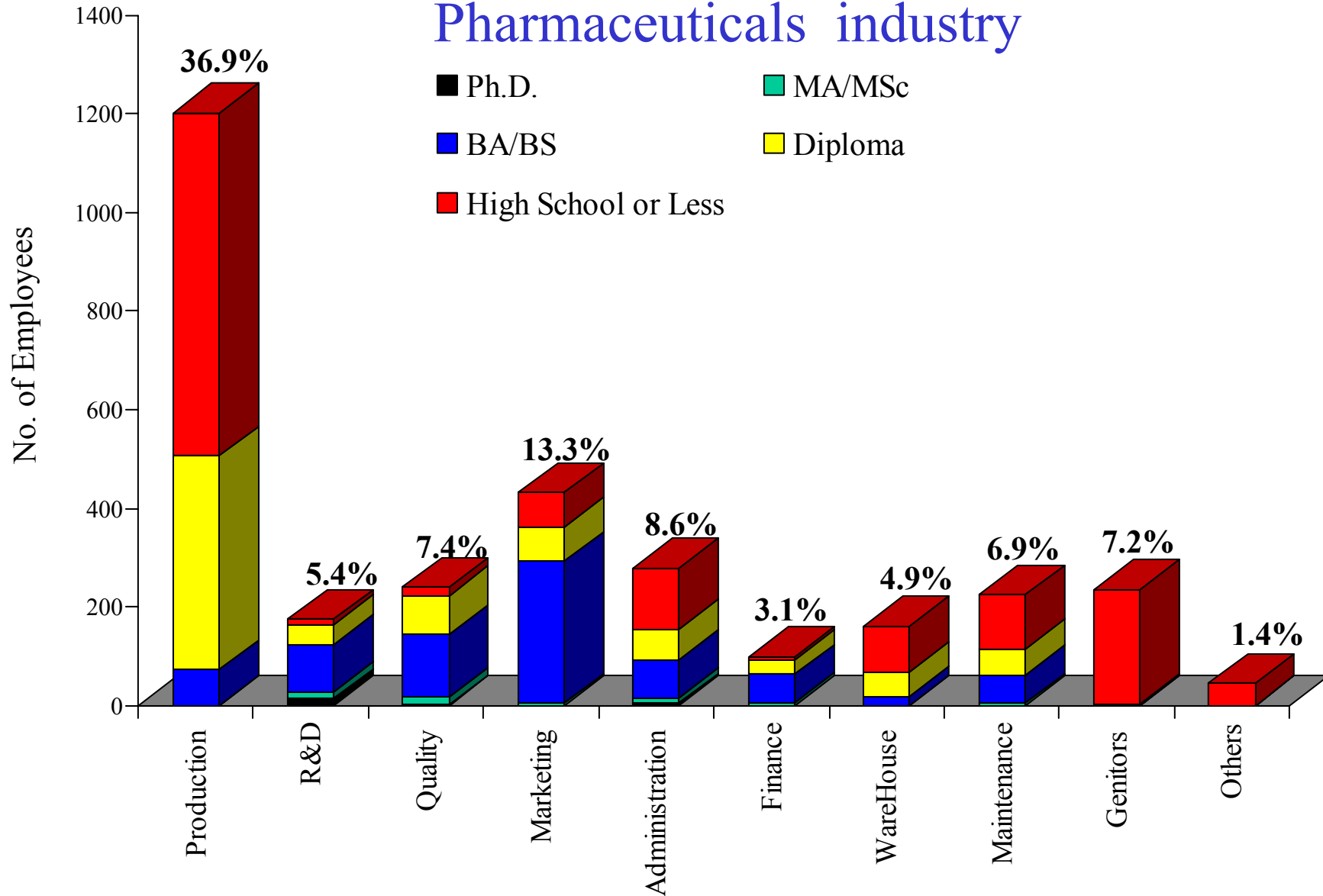


Average Monthly Wages Per Employee in JD



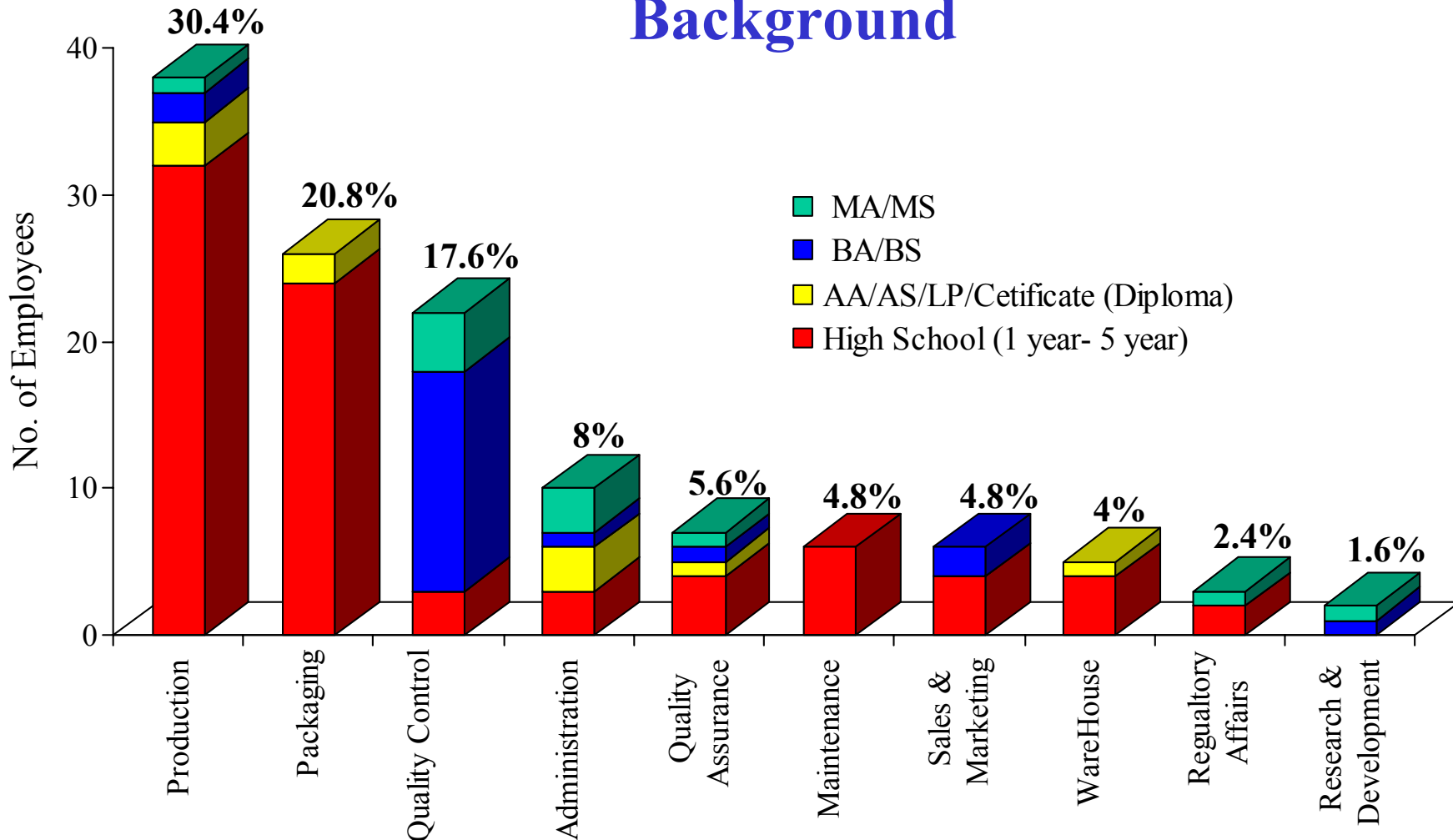
Pharmaceutical industry is considered the highest paid industry in terms of wages. The average wage of employees holding high school degree and less is higher than the GDP per Capita for year 1997

Distribution of Employees according to Academic Qualifications in Different Departments of Pharmaceuticals industry



Case Study (Typical Generic Co. in the USA)

Breakdown of Employees According to their Academic Background



Total No. of Employees is 125

Qualifications Needed

Based on a Survey held Dec. 1998, qualifications needed are:

- **Masters degree** in:
 - Analytical Chemistry
 - Microbiology
- **Ph.D.** in:
 - Biotechnology
 - Drug Organic Synthesis
 - Drug Metabolism
 - Drug Law
 - Organic Synthesis
 - Chemical Analysis

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- Industry Overview.
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Universities with Pharmacy Colleges

Public Universities

Jordan

**Science &
Technology**

Private Universities

Applied Science

Al-Isra

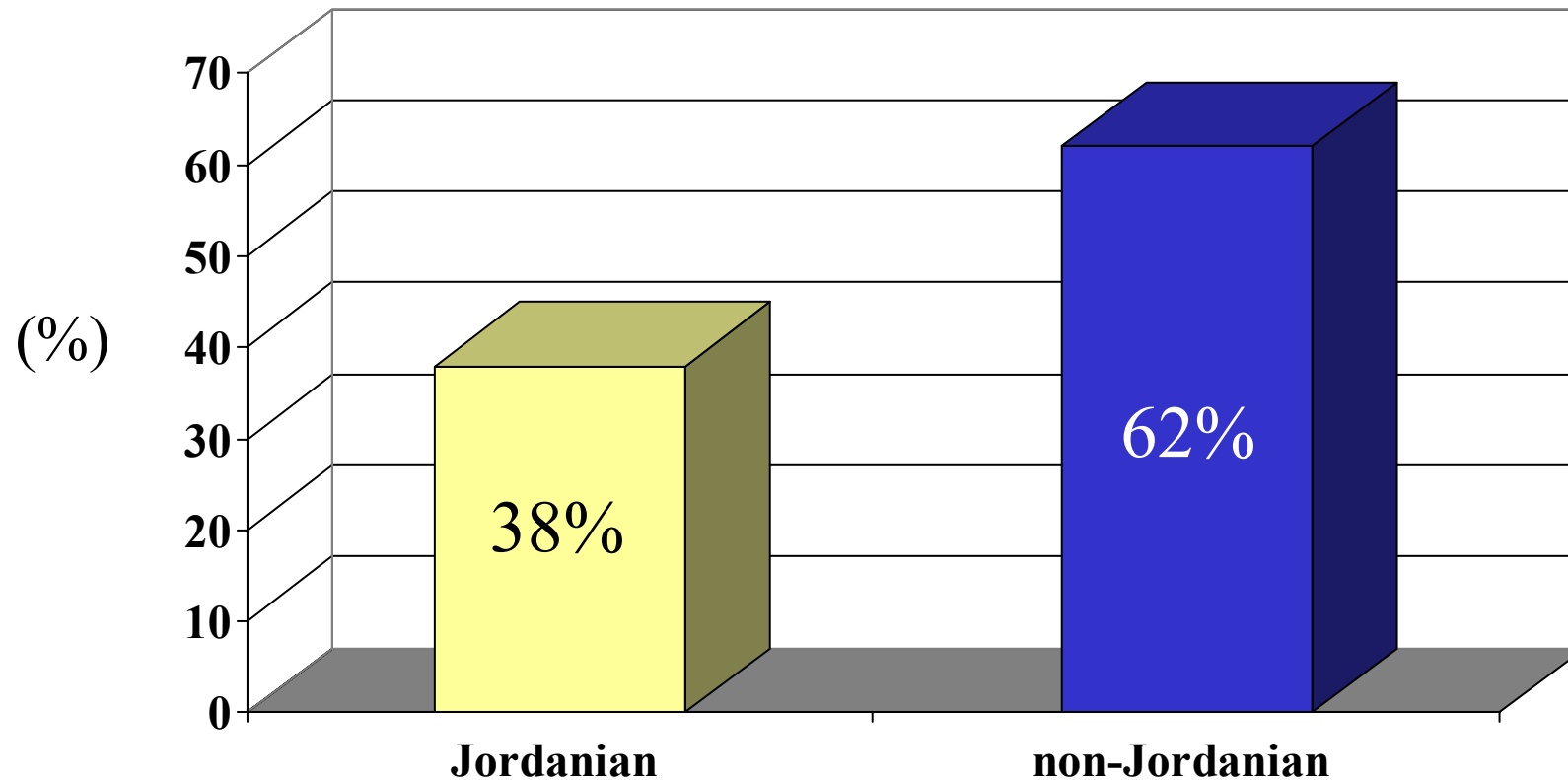
Philadelphia

Amman Private

Al-Petra

Zytooneh

Percentage of Professors at Pharmaceutical Faculties at Jordanian Universities according to Nationality



Relevant Data & Detailed Information on Professors

A profile containing all the below data and information has been conducted:

Name: Nationality: Academic qualification:

- University of Graduation:
- Time Percentage of Activities (Basic and Applied Researches):
- Number of Years Spent in R&D (Internally, Externally):
- Number of Patents in Graduate Name:
- Number of Books and Reports Registered in Graduate Name:



Pharmaceutical faculties at Jordanian universities should make use of such profiles to establish web-sites with all relevant data and detailed information to support the needs of industrialists

Summary

- Although 45.3% of employees are holding high-school degrees, the distribution of employment in pharmaceutical industries is considered satisfactory.
- Average wages of employees holding high-school degrees or less is higher than the GDP per Capita for 1997.
- Education system is still not market driven.
- 38% of teaching staff at Jordanian universities are Jordanians