1. Licenses and Assignments Used by Universities in Technology Transfer

Universities often pen assignment contracts between themselves and their employees to ensure that the universities gain the ownership of the invention. Thus, universities would be able to capitalize on inventions produced by their faculty. These assignments can be reflected in a general "patent policy"[9] or enacted upon signature of a patent transfer agreement.[10] The transfer of rights between the inventor and the funded institution has consequences with respect to ownership, which will be examined generally in Chapter III, *infra*, and specifically with respect to the *Stanford v. Roche* case in Chapter V, *infra.*

The BDA also compels universities to license inventions. First, the government retains a nonexclusive license to practice for or on behalf of the United States.[11] Secondly, universities grant licenses to commercial entities. Implicit in the BDA is that a university must attempt to commercialize its inventions, which in practice often involves a license to a third party in exchange for royalty payments.[12] Bayh-Dole effected license agreements between universities and licensees may be either exclusive or nonexclusive, and tend to mirror a typical patent license agreement.[13]

2. Prohibition on Assignments by Universities to Third Parties

While the BDA arguably imposes a duty on universities to commercialize, the Act constricts universities by eliminating the possibility of assignment in most situa-

9 *See* Research Policies: University of Delaware Office of the Executive Vice President and University Treasurer, *available at* http://www.udel.edu/ExecVP/policies/research/6-06.html. "it is the policy of the University that all inventions and discoveries,... which are conceived or reduced to practice or developed by University faculty, staff, or students in the course of employment at the University... shall be the property of the university." *Id.*

10 Stanford University requires all relevant personnel to sign a Patent and Copyright Agreement, which currently references its policy and states, in part, "I hereby assign to Stanford all my right, title and interest in such patentable inventions..." *See* Patent and Copyright Agreement for Stanford Personnel, Research Policy Handbook: Memo, *available at* http://rph.stanford.edu/su18.html. This policy has been clearly amended subsequent to a Supreme Court decision finding that Stanford's previous assignment was merely a future interest. *See* Board of Trustees of the Leland Stanford Junior University v. Roche Molecular Systems, Inc., et al., 563 U. S. ___ (2011) at page 8. This case and its effects on technology transfer will be discussed in chapter V, *infra*.

11 *See* 35 U.S.C. § 202(c)(4) (2009).

12 *See generally* 35 U.S.C. § 203(a)(1) (2009), explaining that the government can "march-in" and effectuate its own licenses if the contractor has "not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use.".

13 For an example of a typical license agreement, *See* "Model License Agreement: Exclusive License Agreement Between The Johns Hopkins University & ____," *reprinted in* Technology Transfer Issues for Colleges and Universities: A Legal Compendium (Judith L. Curry, ed., National Association of College and University Attorneys (NACUA) 2005) at 265.

tions. Specifically, the universities must *license* their federally funded inventions, since they are prohibited from *assigning* any rights to any for-profit entity.[14] The prohibition on assignments relates to the general idea that the university should do as much as possible to ensure that an invention is serving the public, and by transferring ownership, the university would lose control over the practicing of the invention.[15]

B. History of the Bayh-Dole Act

To understand the rationale for the provisions of Bayh-Dole and the consequences of the Act, a brief history of the university technology transfer system and other relevant circumstances leading to the passing of this Act is instructive.

1. Historical Characteristics of the United States Higher Education System

R&D originating from universities in the U.S. carries many characteristics unique from the systems of other countries. The pathway to such distinct innovation has its roots in the early twentieth century. The U.S. university system enrolled a larger fraction of eighteen to twenty-two year olds than any European nation from 1900 onwards.[16] The most developed European countries did not reach this level until the 1960s, at which point the U.S. already had nearly half of this age group attending a higher-level institution.[17]

Included in many universities' curricula was a vast amount of specialized engineering coursework, often specifically tailored to the needs of a certain region.[18] The ability for students and researchers to work on projects that could contribute to a local interest and solve practical problems was an automatic incentive to innovate and a costless motivational tool.[19]

The U.S. higher education system can be further distinguished from other countries with respect to its unified and competitive national market for faculty.[20] Euro-

14 *See* 35 U.S.C. § 202(c)(7)(a) (2009). This policy behind this provision underlines an expectation of the government for the university to retain certain control over the invention, which is complicated by the *Stanford v. Roche* decision and discussed in Chapter V-B-4-b, *infra.* For definitions of licenses and assignments, *see* note 8, *supra.*

15 However, an exclusive license is permitted, so long as the title remains with the university. *See* Kettner and Decker, *supra* note 6 at 15.

16 *See* Mowery, *supra* note 5, at 18.

17 *See id.* at 11.

18 *See id.* at 12.

19 *See id.* at 14.

20 *See id.* at 13.