This institution is explained in the corresponding section of the following chapter. For statistics we can only turn to the number of patents subjected by court order to compulsory license (and not free use), or else turn to Sanders' 123 responses from assignees who had licensed their patents of 1938, 1948, or 1952, to the question "What were the reasons for licensing it? (Comment)". 416 Of these licenses 4.9% were said to be granted because connected with a Government contract; and to these we shall add 2.9% for compulsory license.417 The result is a percentage of all patents initially assigned to American corporations in those years, viz., 7.7%. We reported in ¶ 127 that in 1956 4.9% of the patents in nominal force were subject to compulsory license by court order. But most of these patents were not compulsorily licensed from their beginning, but by court order when largely run out; so this figure is consistent with that from ¶ 127. We should also consider as partially subject to compulsory license all inventions used or potentially usable by the Federal Government. What part the assigned patents represent of the total commercial inventive and research effort reckoned by the statistics (secs. 8 and 9), we have no good way of estimating. But following our guesses in ¶ 138,9 that about one-fifth of invention, etc., is patent-motivated, we would infer that about 11/2% of it comes under compulsory license, sooner or later. In any case a status of compulsory licensing on demand is probably not a strong incentive for inventing or patenting, which would depend more on other motives; the compulsorily licensed patent, like some pooled patents, gives moderate royalties but not full freedom of ownership. So we are speaking in this section of a status, more than of a motive or support for invention.

[416] 14. Patent pooling and cross-licensing:

ca. 1957, percent of weighted patents______ 14.5% 1954, same percent of guessed patent-motivated, invention, etc_____ \$305 million, 5.39%

Our two title phrases refer to the same idea in different degrees, patent pooling being more extensive as to number of patents and/or companies, than cross-licensing. One might consider here also patent consolidations or monopolies, where a dominating assemblage of patents are owned by one company; but we do not in the following statistics.⁴¹⁸

[417] Once again we turn to the invaluable statistical studies of Sanders for quantification. If we may take the assigned patents as about all that matter, he found that 30% of them were licensed, and 39% of the licensing assignees gave "cross-licensing or a package deal" as their reason for licensing, to which we add 2.8% as before (see ft. N 417 below), making 41.8% of the licensed, or 14.5% for all assigned patents with responses. Some tendency was visible for an increase in the proportion licensing for that reason, between the patent years 1938 and 1952. We have set down 14.5% in the first statistical line at the head of this section, and in the line following have applied this percentage to the \$2,880 million of the laboratories' contribution (sec. 9), diminished by one-fourth for their work not patent-motivated, in accordance with our guess in table 6, ¶ 138. There is probably some

⁴¹⁷ Of the licenses 5.7% were ascribed to "Compulsory licensing or interference." We shall assign half of these to Compulsory License, and the other half to our next sec. 14, Cross Licensing.