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Let  $k$  be a global field,  $\bar{k}$  a separable closure of  $k$ , and  $G_k$  the absolute Galois group  $\text{Gal}(\bar{k}/k)$  of  $\bar{k}$  over  $k$ . For every  $\sigma \in G_k$ , let  $\bar{k}^\sigma$  be the fixed subfield of  $\bar{k}$  under  $\sigma$ . Let  $E/k$  be an elliptic curve over  $k$ . We show that for each  $\sigma \in G_k$ , the Mordell-Weil group  $E(\bar{k}^\sigma)$  has infinite rank in the following two cases. Firstly when  $k$  is a global function field of odd characteristic and  $E$  is parametrized by a Drinfeld modular curve, and secondly when  $k$  is a totally real number field and  $E/k$  is parametrized by a Shimura curve. In both cases our approach uses the non-triviality of a sequence of Heegner points on  $E$  defined over ring class fields. (Received September 24, 2006)